

Wianamatta Regional Park masterplan



Prepared for:



Environment,
Climate Change & Water
National Parks & Wildlife Service



March 2013

Wianamatta Regional Park

Volume 1: Park Vision



Prepared for:



Environment,
Climate Change & Water
National Parks & Wildlife Service



March 2013

© 2013 State of NSW and Office of Environment and Heritage

With the exception of photographs, the State of NSW and Office of Environment and Heritage are pleased to allow this material to be reproduced in whole or in part for educational and non-commercial use, provided the meaning is unchanged and its source, publisher and authorship are acknowledged. Specific permission is required for the reproduction of photographs.

Published by:

Office of Environment and Heritage

59 Goulburn Street, Sydney NSW 2000

PO Box A290, Sydney South NSW 1232

Phone: (02) 9995 5000 (switchboard)

Phone: 131 555 (environment information and publications requests)

Phone: 1300 361 967 (national parks, general environmental enquiries, and publications requests)

Fax: (02) 9995 5999

TTY users: phone 133 677, then ask for 131 555

Speak and listen users: phone 1300 555 727, then ask for 131 555

Email: info@environment.nsw.gov.au

Website: www.environment.nsw.gov.au

Report pollution and environmental incidents

Environment Line: 131 555 (NSW only) or info@environment.nsw.gov.au

See also www.environment.nsw.gov.au

ISBN 978 1 74359 382 0

OEH 2014/0041

March 2013

Prepared by:

Environmental Partnership (NSW) Pty Ltd

Level 3/Suite 3.01 22-36 Mountain Street

Ultimo NSW 2007

T: 61 2 9281 7007

W: www.epnsw.com.au

In association with:

Godden Mackay Logan, Heritage Consultants

TABLE OF CONTENTS

Volume 1: Park Vision

i	List of Figures
ii	List of Abbreviations
iii	Glossary of terms
iv	Summary
	- Masterplan Background
	- Guiding principles for masterplan
	- Opportunities and constraints
	- Regional Park Masterplan
v	- Public Exhibition panels

Volume 2: Conservation Management Plan

1	Introduction	1
1.1	Background	
1.2	Wianamatta Regional Park	
1.3	Current heritage listings	
1.4	Methodology and Terminology	
1.5	Limitations	
1.6	Author Identifications	
1.7	Acknowledgements	
1.8	Previous Reports	
1.9	Endnotes	
2	Outline history	11
2.1	Introduction	
2.2	Summary Timeline of Important Historic Phases	
2.3	Summary Phases	
2.4	Endnotes	
3	Analysis of physical evidence	45
3.1	Introduction	
3.2	The Natural Landscape	
3.3	Introduced Species	
3.4	The Archaeological Resources at Wianamatta	
3.5	Cultural Landscape	
3.6	Endnotes	
4	Consultation and community based research	81
4.1	Background	
4.2	Social Heritage Value: A Definition	
4.3	Methodology for Stakeholder Consultation	
4.4	Consultation with Aboriginal People	
4.5	Analysis of Aboriginal Community Consultation Results	
4.6	Results of Aboriginal Stakeholder Consultation	
4.7	General Community Consultation	
4.8	Authorities Stakeholders	
4.9	Conclusions	
4.10	Endnotes	
5	Assessment of heritage values	95
5.1	Introduction	
5.2	The State Heritage Criteria	
5.3	National Heritage List Criteria	
5.4	State and National Historical Themes	
5.5	Assessed Heritage Values for Wianamatta Regional Park	
5.6	Applying the New South Wales Heritage Assessment Criteria	
5.7	Comparative Assessment	
5.8	Summary Statement of Significance	
5.9	The National Heritage Criteria	

5.10	Assessing Individual Elements	
5.11	Summary Analysis of the Site - Values	
5.12	Endnotes	
6	Constraints and opportunities	141
6.1	Introduction	
6.2	Constraints and Opportunities Arising from Heritage Values/ Significance	
6.3	Specific Constraints and Opportunities Relating to Archaeology	
6.4	Constraints and Opportunities with Respect to Setting	
6.5	Specific Constraints and Opportunities Relating to Archaeology	
6.6	Client Requirements and Proposed Uses - Plan of Management	
6.7	Constraints and Opportunities Arising from Condition and Integrity	
6.8	Statutory Contexts	
6.9	St Marys Environment Planning Strategy 2000	
6.10	St Marys Development Agreement	
6.11	Heritage Act 1977	
6.12	Statutory Planning Controls - Blacktown LEP 2005	
6.13	Penrith Local Environment Plan 1991	
6.14	National Parks and Wildlife Act 1974	
6.15	Threatened Species Conservation Act 1995	
6.16	Environmental Planning and Assessment Act 1979	
6.17	Environmental Protection and Biodiversity Conservation Act 1999	
6.18	Australian Heritage Database	
6.19	Other Statutory and safety Requirements	
6.20	DECCW Policy and Management Framework	
6.21	Non - Statutory Listings	
6.22	Endnotes	
7	Conservation policies and Recommended actions	161
7.1	Introduction	
7.2	Conservation Vision for Wianamatta Regional Park	
7.3	Adoption, Endorsement and Review of the CMP	
7.4	Overarching Conservation Planning and Assessment Policies	
7.5	Ongoing Research, Listings and Documentation	
7.6	Knowledge, Experience and Abilities	
7.7	Community Engagement and Interpretation	
7.8	The Archaeological Resource	
7.9	Landscape and Setting	
7.10	Physical Intervention, including Maintenance	
7.11	Heritage Conservation and New Development	
7.12	Specific Recommendations for Possible Future Development and Uses	
7.13	Endnotes	
8	Interpretation and communication strategy	191
8.1	How to Use this Strategy	
8.2	Interpretation as a Conservation Process	
8.3	Interpretation Principles	
8.4	Developing Interpretation	
8.5	Associated People	
8.6	Audiences and Objectives	
8.7	Interpretation Opportunities	
8.8	Interpretative Constraints	
8.9	Communication Media and Activities	
8.10	Endnotes	

Volume 3: Park Masterplan

i	List of Figures	
ii	List of Abbreviations	
iii	Glossary of terms	
1	Introduction	5
1.1	Background	
1.2	Site configuration	
1.3	Project Vision (objectives)	
2	Review	9
2.1	Natural Systems	
	- vegetation and habitat	
	- flora and fauna management	
2.2	Soils, topography and drainage	
2.3	Environmental management & Park sustainability	
2.4	Heritage management & interpretation/ adaptive re-use	
2.5	Access and relationship to adjoining communities	
2.6	Services and infrastructure	
2.7	Open space and recreation	
2.8	Visitor facilities and site management	
2.9	Planning framework	
3	Synthesis and evaluation	31
3.1	Consultation	
3.2	Opportunities and Constraints	
3.2	Parkland Vision	
4	Masterplanning Principles	39
4.1	Key Masterplanning Objectives and Principles	
4.2	Masterplanning Strategies	
5	Regional Park Masterplan	53
5.1	Masterplan	
5.2	Park zone 1: Primary Habitat Focus	
5.3	Park zone 2: Secondary Habitat Focus	
5.4	Park zone 3: Recreation Focus	
	- Precinct plan 1 Main Visitor Precinct	
	- Precinct plan 2 Northern Central Visitor Precinct	
	- Future works South Central Visitor Precinct	
	- Future works Dunheved Precinct	
6	Materials and Finishes	87
6.1	Generally	
6.2	Roads tracks and paths	
6.3	Fencing and barriers	
6.4	Planting	
6.5	Furniture	
6.6	Facilities	
6.7	Signage	
6.8	Public Art	
6.9	Found materials	
7	Action Plan	99
7.1	Criteria for establishing priorities	
7.2	Masterplan Costings	
7.3	Action Plan	
8	Bibliography	111
9	Appendices	113
	Appendix 1: Landscape Masterplan	
	Appendix 2: Plant species list for revegetation	

TABLE OF CONTENTS

List of Figures

Volume 1: Vision

- Figure 1.0 Location of Wianamatta Regional Park
Figure 2.0 Opportunity and Constraints Plan
Figure 3.0 Zone 1 – Primary Habitat Focus
Figure 4.0 Zone 2 – Secondary Habitat Focus
Figure 5.0 Zone 3 – Recreational Focus
Figure 6.0 Regional Park Masterplan
Figure 7.0 Staging Plan

Volume 2: Conservation Management Plan (refer volume 2 document)

Volume 3: Park Masterplan

1.0 Introduction

- Figure 1.1 ADI Site Map, includes: Wianamatta Regional Park, Delfin Lend Lease Development Precincts & Neighbouring suburbs

2.0 Review

- Figure 2.1.1 Vegetation Communities within the Regional Park
Figure 2.1.2 Fauna habitat within the Regional Park
Figure 2.2.1 Site topography
Figure 2.2.2 Creeks local catchment areas and water basins
Figure 2.2.3 Site topography and water courses
Figure 2.4.1 Aboriginal cultural heritage
Figure 2.4.2 Pre European settlement archaeology
Figure 2.4.3 Location of Early European heritage areas
Figure 2.4.4 Location of Growth and development heritage
Figure 2.4.5 Location of Growth and Development Phase (1851 to 1941) heritage
Figure 2.4.6 Location of Explosives & Filling Phase (1914 to 1946) heritage
Figure 2.4.7 Location of Munitions & Storage Phase (1950 to 1990s) heritage
Figure 2.4.8 Grading of significance of historical archaeological sites in the Regional Park
Figure 2.4.9 Grading of significance of the cultural landscape elements within and partially within the Regional Park
Figure 2.5.1 Sydney Metropolitan Regional Trails Network
Figure 2.5.2 Ropes and South / Wianamatta Creeks Masterplan
Figure 2.5.3 Existing sealed roads
Figure 2.5.4 Existing sealed roads & gravel roads
Figure 2.5.5 Existing sealed roads, gravel roads, & grassed road/ track
Figure 2.5.6 Existing sealed roads, gravel roads, grassed road/ track, & tracks
Figure 2.5.7 Existing access & topography
Figure 2.5.8 Existing access & vegetation communities
Figure 2.5.9 Compilation of existing roads and tracks on the site
Figure 2.6.1 Existing Infrastructure
Figure 2.7.1 Appraisal of potential locations of uses based on PoM scope of uses

3.0 Synthesis And Evaluation

- Figure 3.1.1 Key Factors Map: Alluvial Woodland, Creeks and Water courses, Existing roads and tracks and Adjoining open space

4.0 Masterplanning Principles

- Figure 4.2.1 Zone 1 - Primary Habitat Focus
Figure 4.2.2 Zone 2 - Secondary Habitat Focus
Figure 4.2.3 Zone 3 - Recreation Focus
Figure 4.2.4 Vehicular entry / exit
Figure 4.2.5 Vehicular circulation & closed roads
Figure 4.2.6 Access network and vegetation communities
Figure 4.2.7 Access network and recreational precincts / points of interest
Figure 4.2.8 Recreation and Use Strategy Plan

5.0 Regional Park Masterplan

- Figure 5.1.1 The Regional Park zones
Figure 5.1.2 The Regional Park access system
Figure 5.1.3 The Regional Park Masterplan
Figure 5.2.1 The Regional Park Masterplan
Figure 5.2.2 Zone 1 - Primary Habitat Focus
Figure 5.2.3 The Regional Park Masterplan
Figure 5.2.4 Zone 2 - Secondary Habitat Focus
Figure 5.2.5 Staged works plan to recreation precincts
Figure 5.2.6 Main Visitor Recreation Precinct Masterplan
Figure 5.2.7 Main Visitor Recreation Precincts Section AA
Figure 5.2.8 Main Visitor Recreation Precincts Section BB
Figure 5.2.9 Traffic Circulation & Parking Precinct Plan
Figure 5.2.10 Proposed Regeneration and Revegetation Areas
Figure 5.2.11 Existing Vegetation Communities Precinct Plan
Figure 5.2.12 Cross section - showing detail of possible adaptive refurbishment of Mine Filling building
Figure 5.2.13 Main Visitor Precinct Interpretation Plan
Figure 5.2.14 S29 -The Mine Filling Building
Figure 5.2.15 S43 & S44 -Transit Stores
Figure 5.2.16 S42 Transit Store -Proposed NPWS workshop maintenance depot
Figure 5.2.17 ADI Functional Areas - for potential interpretive naming of spaces
Figure 5.2.18 Montage depicting potential boardwalk access along top of berms adjoining Transit Stores in west of precinct
Figure 5.2.19 Recreation locations within Main Visitor Precinct Plan
Figure 5.2.20 Montage of Day to Day Recreation within Main Visitor Precinct - picnic use of cleared areas to past shell filling buildings
Figure 5.2.21 Montage of Event Recreation within Main Visitor Precinct Plan
Figure 5.2.22 Visitor facility locations to Main Visitor Precinct
Figure 5.2.23 Montage depicting typical Interpretative viewing point to top of berm near Visitors Centre
Figure 5.2.24 Montage depicting typical toilet block provided between Transit Stores in west of precinct
Figure 5.2.25 Western Recreation Precinct Masterplan
Figure 5.2.26 Western Recreation Precincts Section CC
Figure 5.2.27 Traffic Circulation & Parking Precinct Plan
Figure 5.2.28 Proposed Regeneration and Revegetation Areas
Figure 5.2.29 Existing Vegetation Communities
Figure 5.2.30 Proposed revegetation and regeneration areas
Figure 5.2.31 Recreation locations within Main Visitor Precinct Plan
Figure 5.2.29 Montage depicting typical Interpretative signage
Figure 5.2.30 Montage depicting typical toilet block
Figure 5.2.31 Visitor facility locations to Western Visitor Precinct Plan
Figure 5.2.32 Montage depicting typical informal seating in hilltop parkland
Figure 5.2.33 Visitor facility locations to Western Visitor Precinct Plan
Figure 5.2.34 Central Recreation Precinct Masterplan
Figure 5.2.35 Central Recreation Precinct Section DD
Figure 5.2.36 ADI Functional Areas - for potential interpretive naming of spaces
Figure 5.2.37 Park Zone 3 - Southern Central Visitor Precinct
Figure 5.2.38 Park Zone 3 - Dunheved Precinct

6.0 Materials and Finishes

- Figure 6.2.1 Walking track guidelines (NPWS Facilities Manual 2007I)
Figure 6.2.2 Track Form (NPWS Facilities Manual 2007)
Figure 6.3.1 Proposed location of fencing / barrier types

7.0 Action Plan

- Figure 7.1 Action Plan
Figure 7.2 Stages Plan
Figure 7.3 Masterplan Costings



TABLE OF CONTENTS

List of Abbreviations

ADI	Australian Defence Industries
BCC	Blacktown City Council
CMP	Conservation Management Plan
PoM	Wianamatta Regional Park Plan of Management
DLL	Delfin Lend Lease
DECCW	Department of Environment, Climate Change and Water
NPWS	National Parks and Wildlife Service
PCC	Penrith City Council
WRP	Wianamatta Regional Park
WWII	World War Two

Glossary of terms

Adaptive re-use - Modification of a building or its existing curtilage to suit an existing or proposed use. Can only occur if the modification is undertaken in a sustainable manner; the modification and use are not inconsistent with the conservation of the natural and cultural values of the land; and the modification is compatible with the retention of the cultural significance of the building or structure.

Amenity Block - A public building that is usually constructed in a visitor area for toilet facilities, showers and maybe laundry facilities.

Appropriate recreation - Recreation that is in accordance with the essential nature and spirit of the management principles of the relevant park, does not substantially interfere with implementation of management objectives, is culturally appropriate and does not have an unacceptable degree of environmental or social/cultural impact.

Appropriate uses - Those activities that are consistent with legislation and DECC policies.

Approval - Includes a consent, licence, permission or some form of authorization.

BBQ shelter - a structure that provides shade and shelter over a BBQ for park visitors for cooking and preparation of food. Normally a roof supported by posts but may have one or more walls for additional protection.

Cafe - A building or part of a building with indoor and/or outdoor seating used for the sale of light meals and refreshments. May be dine in but may also provide a take-away service.

Car park - An area set aside for the safe parking of cars, may have a sealed or unsealed surface, may have formed parking bays or not (usually for more than one or two vehicles). Does not include road pull-off areas.

Conference/Education Centre/Field Studies Centre - a centre that provides training, conference, education or meeting facilities. Would typically include a large room with seating capacity of 20 people or more. May also include catering and dining facilities and in some instances, accommodation may be attached. May be used for staff, holiday or other accommodation.

Bush regeneration - The practice of restoring bushland by focusing on reinstating and reinforcing the system's ongoing natural regeneration processes (Australian Association of Bush Regenerators). Bush regeneration work aims to rehabilitate the bush from a weed infested or otherwise degraded plant community to a healthy community composed of locally occurring native plants.

Critical habitat - Habitat declared under Part 3 of TSC act that is critical to the survival of species or populations listed under the TSC Act 1995.

Critically endangered ecological community - An ecological community listed under Part 2 of Schedule 1a of the TSC Act 1995, that is at extremely high risk of extinction in NSW in the near future.

Critically endangered species - A species listed under Part 1 of Schedule 1a of the TSC Act 1995, that is at an extremely high risk of extinction in NSW in the near future.

Day use area - An outdoor space used by visitors providing for day use, as distinct to overnight use. The most common activity in day use areas is picnicking although some day use areas provide for other visitor uses.

Desired outcomes - Goal statements or measurable objectives which are documented in a Plan of Management implementation table

Disabled Access - Access constructed in accordance with AS1428 "Design for Access and Mobility" for use by people with restricted mobility.

Ecologically sustainable development (ESD) - ESD require the effective integration of economic and environmental considerations in decision making processes can be achieved through implementing the following principles: Precautionary principle; Inter generational equity; Conservation of biological diversity and ecological integrity; and, Environmental factors should be included in the valuation of assets and services (*Protection of the Environment Administration Act 1991 s.6(2)*).

Ecotourism - Nature-based tourism that involves education and interpretation of the natural environment and is managed to have minimal environmental impact on the sites visited. The definition recognises that the natural environment includes cultural components and that there should be an appropriate return to the local community and the long-term conservation of the resource (*Commonwealth Department of Tourism 1994*).

Endangered ecological community - An ecological community listed under Part 3 of Schedule 1 of the TSC Act 1995, that is facing a very high risk of extinction in NSW in the near future.

Endangered population - A population listed under Part 2 of Schedule 1 of the TSC Act 1995, that is facing a very high risk of extinction in NSW in the near future.

Endangered species - A species listed under Part 1 of Schedule 1 of the TSC Act 1995 that is facing a very high risk of extinction in NSW in the near future.

Fence (Boundary) - A fence that is situated on the boundary of the park where it adjoins a neighbour. (AMS)

Fence (Internal) - A fence that is situated within a park or reserve and is not a boundary fence. Solely owned and maintained by NPWS. (AMS)

Historic Building - A building that has heritage value and may be either over 25 years old, or listed on the relevant council list (local significance), state heritage register (state significance) Cth EPBC Act 1999 (national significance) or international (world heritage property). May have currently or previously had a range of uses (see homestead, hut, cabin, cottage/house)

Historical/Cultural garden or plantings - Any plantings, either native or introduced that have been historically planted at that location. This definition does not include plants which have spread significantly beyond the original plantings or seedlings of original plants, but may include replacement plantings. Examples of historical planting include (but is not limited to), stands of trees and flowers planted along roads or access routes, ornamental gardens and plants at historic sites, cultural plantings at cemeteries, orchards and hedges. May have heritage significance, but may also be a potential weed source.

Homestead - Typically the primary dwelling in a pastoral situation that provides accommodation, generally for one family. The Homestead can include external buildings such as kitchens, meat house, servants quarters, workers living quarters, bathhouse, laundry, offices, stores buildings, livestock housing, gardens, orchards and sheds etc.

Interpretation - Programs, activities and facilities aimed at giving visitors greater awareness, understanding and appreciation of the features and significance of the park.

Lookout - A high place or structure used for observation for viewing scenic values or for fire detection.

Management response - Are the actions or strategies which are documented in a Plan of Management implementation table.

Management principles - A set of principles set out in the NPWS Act 1974 for each category of land reserved under the NPWS Act 1974.

Management trail - A vehicle trail that is maintained to facilitate management activities and is not available for general public vehicular use, except for licensed access to inholdings, apiary sites or similar.

Modified natural area - An area of land where the native vegetation cover has been substantially modified or removed by human activity (other than activity relating to bush fire management or wild fire) and that is identified in a plan of management as not being appropriate for or capable of restoration.

Nature-based recreation - A recreational activity in which the experience of the natural environment forms a major motivation.

Park - All "protected area" tenures managed by the NPWS.

Picnic Area - A maintained visitor area set aside for outdoor food preparation, consumption and general recreation for groups and individuals. Tables, shelters, barbeques and toilet facilities may be provided. No camping allowed.

Picnic Shelter - A structure that provides shade and shelter for park visitors for seating and food consumption. Normally a roof supported by posts but may have one or more walls for additional protection. May or may not have picnic tables, barbeques and/or other facilities.

Prohibited - An activity can not be undertaken under legislation and/or PoMs.

Public Access road - An access road opened for vehicle use by the general public. May also be available for walking, cycling etc.

Regenerate - A process where ecological communities that have been subject to some form of disturbance such as clearing, logging or weed invasion are restored to a good condition or natural state. This process can occur through naturally processes or management intervention.

Rehabilitate - To restore an ecological community to a good condition or former state using management intervention.

Revegetation - Produce a new growth of vegetation on (disturbed or barren ground)

Restoration - Returning the existing fabric of an historic place to a known earlier state by removing accretions or by reassembling existing components without the introduction of new material (Burra Charter) (Use rehabilitation when referring to restoration of natural areas).

Restricted Public Access road - An access road generally closed to use by the public, however access via locked gates may be permitted by permit.

Threatened species, population and ecological community - Species, populations and ecological communities listed under Schedules 1 or 2 of the TSC act.

Vehicle - (a) a boat or other object that, while floating on water or submerged, whether wholly or partly, under water, is wholly or partly used for the conveyance of persons or things,

(b) an apparatus that, while propelled, or directed or controlled, in the air by human or mechanical power or by the wind, is wholly or partly used for the conveyance of persons or things,

(c) a motor vehicle,

(d) an apparatus propelled, or directed or controlled, upon land, snow or ice by human or animal power or by the wind, and

(e) a trailer or caravan, whether or not it is in the course of being towed. (NPWS Act)

Viewing platform - A structure for viewing scenic values of an area while maintaining a high level of visitor safety.

Visitor Centre - A place that provides information on the area's attractions and is often a retail outlet for maps, brochures, souvenirs and items relevant to the local area. Provides displays that interpret the natural and cultural features of the local environment.

Vulnerable ecological community - An ecological community listed under Part 2 of Schedule 2 of the TSC act, that is facing a high risk of extinction in NSW in the medium term.

Vulnerable Species - A species listed under part 1 of schedule 2 of the TSC act, that is facing a high risk of extinction in NSW in the medium term.

Walking Track Classes - An accessibility and difficulty grading as defined by AS2156 Walking Tracks.

TABLE OF CONTENTS

Masterplanning Mapping Legends

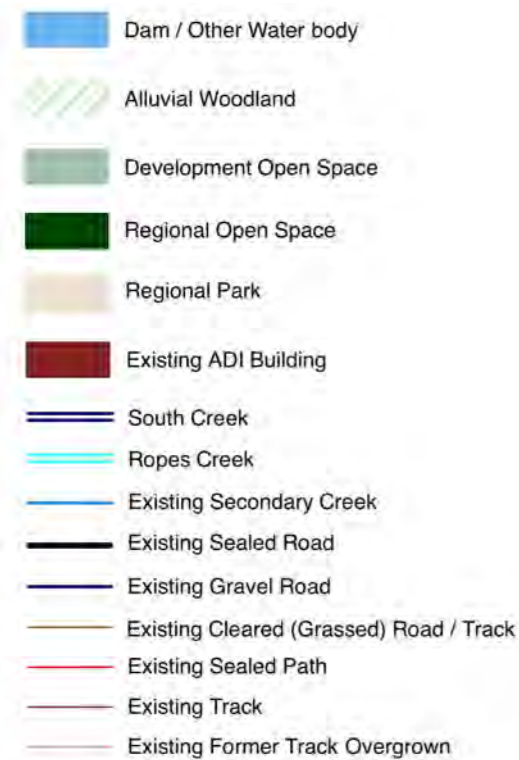
A compilation of mapping legends used throughout this report have been consolidated onto this page as follows as a quick reference.

Note: All development areas included on plans are subject to change and represent indicative design for roads/ open space etc at the time of the Landscape Masterplan report being written. This will be subject to ongoing design development.

Regional Park Masterplan (section 5.0)



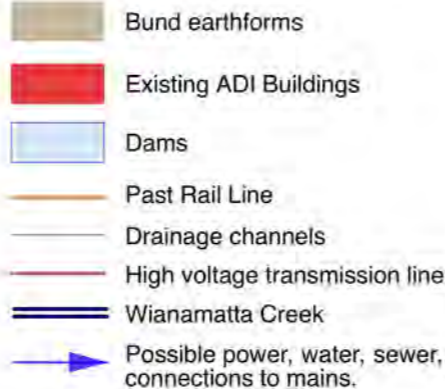
Key Factors Map (Fig 3.1.1)



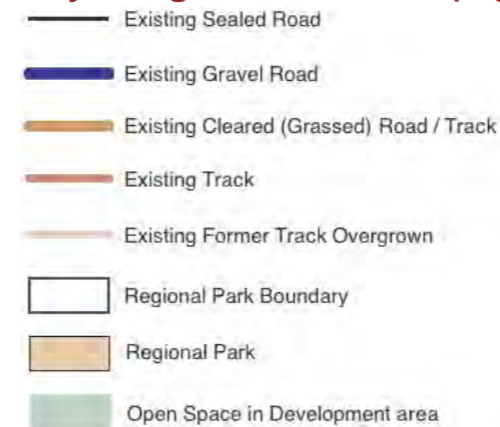
Action Plan (Fig 7.0)



Services and Infrastructure (Fig 2.6.1)



Access and Relationship to adjoining Communities (Fig 2.5.9)



SUMMARY

Masterplan Background

Context

The Wianamatta Regional Park (WRP) covers approximately 900 hectares of the former Australian Defence Industries (ADI) site at St Marys in Western Sydney. The site is located approximately 45 kilometres (kms) west of the Sydney CBD, 5 kms north-east of Penrith, and 12 kms west of Blacktown (refer Figure 1.1).

The overall ADI site has an area of 1545ha, and stretches roughly 7 kms east to west and 2 kms north to south. The residential suburbs of Willmot, Shalvey, Lethbridge Park, St Marys, Werrington County, Werrington Downs, Cambridge Gardens and Cranebrook bound the site to the south, west and east while the areas of Llandilo and Shanes Park lie to the north of the site and are rural in nature (refer Figure 1.2). The site sits within two local government areas, the eastern portion is within Blacktown Council area while the west is governed by Penrith Council. The Park is also within the traditional Darug Aboriginal country and the Deerubbin Local Aboriginal Land Council area.

The land developer (Delfin Lend Lease) portion of the site is expressed as five development precincts, Eastern (Ropes Crossing), Ropes Creek, Dunheved, Central and Western (refer figure 1.3). The Dunheved Precinct supports employment development only, while the Central precinct will support both employment and residential land uses. All other precincts have a residential focus.

Other surrounding land uses include the St Marys Sewerage Treatment Plant and Dunheved Golf Course to the south. While market gardens and transmission station (Shanes Park Air Services site) sit to the north and north-east. The WRP lies within the Sydney Basin Bioregion along with the Castlereagh, Windsor Downs and Agnes Banks Nature Reserves managed by NSW National Parks and Wildlife Service.

Project vision

Aims and Objectives

The NSW National Parks and Wildlife Service of the Department of Environment Climate Change and Water (DECCW) commissioned Environmental Partnership (Landscape Architects) in June 2009 to prepare a masterplan for the Wianamatta Regional Park located on the former ADI site at St Marys. The project team incorporated a number of specialist inputs:

Godden Mackay Logan *Heritage Planning, Aboriginal Community Liaison & Interpretation*
Carolyn Stone *Consultation Planning and Facilitation*

Core aims for development of the masterplan as identified in NPWS brief included:

- Identification and protection of significant heritage items
- Development of visitor facilities
- Provision of traffic circulation
- Provision of access routes into and within the park linking to regional wide connections
- Car parking and management of different landscape areas and boundary interfaces

Key project objectives are:

- To provide strategic direction based on the plan of management for future management of the park including long term conservation and landscape management outcomes;
- To identify broad scale conservation, use, linkages, services, infrastructure and access zones across the park;
- To identify key access points, connections and circulation routes; and
- To identify appropriate levels of access and visitor facilities across the park.

In order to meet these objectives the precinct plans have taken into account the following:

1. The requirements of the Wianamatta Regional Park Plan of Management (POM) for the park;
2. The findings of the Conservation Management Plan (CMP);
3. Considers the natural and cultural values of the places as well as community aspirations and needs; and
4. Takes a long term view to developing visitor improvements in the park.

Influences

The PoM identified a series of influences established to guide the development of the Wianmatta Masterplan. These included the following:

- Natural Systems
 - vegetation and habitat
 - flora and fauna management
- Soils, topography and drainage
- Environmental management & parkland sustainability
- Heritage management & interpretation/ adaptive re-use
- Access and relationship to adjoining communities
- Services and infrastructure
- Open space and recreation
- Visitor facilities and site management
- Planning framework

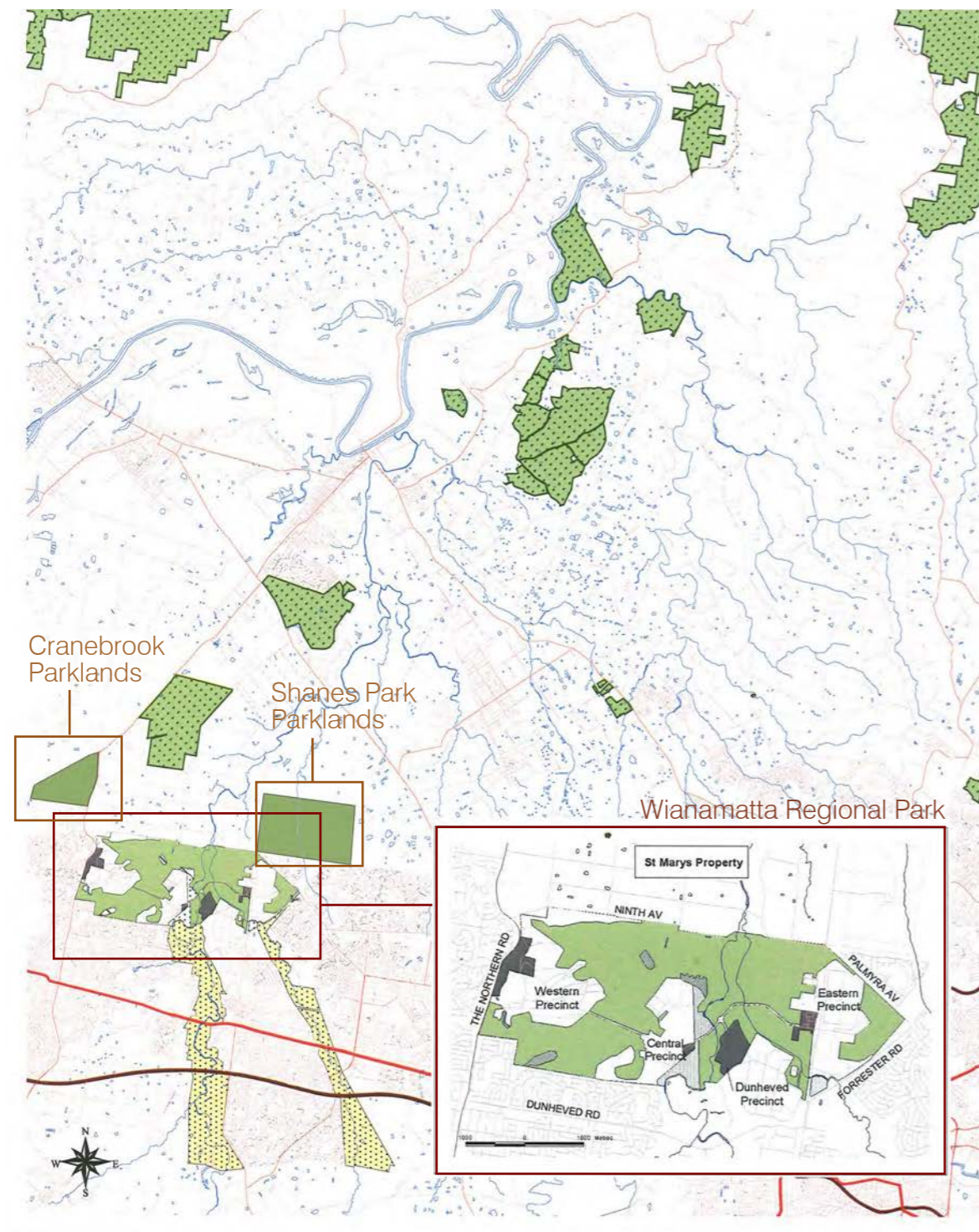
Conservation Management Plan (CMP)

The masterplan has been prepared concurrently with the assessment and development of a Conservation Management Plan (CMP) for the Regional Park by Godden Mackay Logan (GML). This has been undertaken as a fully integrated project process under the project coordination of Environmental Partnership.

This masterplan report references the CMP in the development of key strategies, however it should be read in conjunction with the full CMP document.

The CMP evaluates the heritage significance of archeological, built and landscape features within Wianamatta Regional Park. The plan has been prepared to guide DECCW in the long-term conservation and management of the park.

SUMMARY



Guiding principles for masterplan

1. Natural Systems

Guiding principles for Natural systems include;

Flora in park;

- Protect areas with threatened and highly significant native species
- Minimise park activities within areas containing significant vegetation communities
- Conserve full range of flora habitats in parkland

Topography and drainage in park, and;

- Assist park users to interpret the character of the park
- Improve water quality
- Use of existing tracks/ roads to minimise additional earthworks to the Regional Park
- Minimise soil erosion
- Mitigate soil salinity

Fauna in park;

- Recognise fauna movement through park (creek & vegetation corridors)
- Provide buffer zones to adjoining uses and activities within the park
- Retain habitat tree trunks and protect plant species which provide food and shelter
- Re establish vegetation to highly disturbed zones that impact on fauna movement and habitat

2. Cultural Heritage

Guiding principles for cultural heritage include;

Aboriginal heritage in the park;

- In situ conservation of Aboriginal archaeology is preferred
- Where change is proposed the research potential of archaeology resources will be realised in partnership with Aboriginal people
- Reflect key themes for Aboriginal cultural heritage including;
 - productive place
 - living place
 - meeting place
 - survival and continuity
- Involve Aboriginal communities in the planning, management and conservation of Aboriginal heritage and any associated interpretative elements
- Seek local stories about the history and meaning of the site
- Aboriginal people are the interpreters of their cultural heritage

Figure 1.0 Location of Wianamatta Regional Park



SUMMARY

Guiding principles for masterplan

Historic heritage

- Provide for recreational activities compatible with the cultural significance of heritage place
- Interpret the park's significant cultural heritage and provide opportunities for public enjoyment and education
- Ensure that planned uses and activities do not impact on the cultural significance of the park
- Seek local stories about the history and meaning of the site
- Use heritage roadways, tracks, and other infrastructure to provide recreational locations / services where possible - to reduce additional disturbance and aid interpretation / understanding
- Provide interpretation and destination points to berm landforms
- Provide clear identification / treatment of any new access routes
- Adaptively re-use existing buildings
- Seek local stories about the history and meaning of the site
- Tell the story of the ADI site across the landscape using a range of interpretative initiatives

3. Access / Circulation

Guiding principles for access and circulation include:

Vehicular access and circulation around the park;

- Reuse of existing infrastructure - sealed roads/ entry points
- Provide entry points which effectively connect to district linkages
- Stop unauthorised vehicular access within the park - no cars/ motor bikes or trail bikes on unsealed roads and tracks
- Limit on site parking to key entry points/ recreational nodes/ educational & facilities buildings locations
- Consider one way circulation through site as a way of mitigating potential traffic congestion/ cycle pedestrian conflicts

Existing roads and trails in the park, and;

- Reuse of existing infrastructure - roads/ tracks/ entry points
- Supplement where required to:
 - complete functional loops
 - create a variety of spatial and environmental experiences
- Provide entry points which connect to local areas
- Provide entry points which connect to district linkages
- Provide point to point and loop circulation through site with varied hierarchy of:
 - walk/ cycling difficulty,
 - experiences,
 - points of interest & vegetation/ flora habitat
- Provide sustainable facilities, picnicking areas and resting points within existing cleared/ disturbed areas and at points of interest
- Provide destination for rest / facilities to complement broader district cycle networks (i.e. Ropes Creek/ South / Wianamatta Creek corridors)
- Interpretative treatments to recognise track usage: pedestrian, cycle, both

Pedestrian/ cycle entries into the park;

- Reuse of existing track network and connections at boundaries where possible
- Prioritise placement of track and entries to outside flora, fauna, and heritage conservation areas wherever possible
- Link and supporting signage to regional trail networks

4. Usage / Recreation

Guiding principles for usage and recreation include:

Bushwalking within the park;

- Apply a hierarchy of tracks applicable to the park environment and Regional Park role
- Promote a variety of experiences through park topography, vegetation and heritage
- Integrate track access with picnic facilities for shared use of facilities (toilets / picnics)
- Provide directional signage
- Integrate interpretation into track facilities and signage as appropriate to each specific location

Cycling facilities in the park;

- Use existing roads and tracks
- Promote cycling as key park activity
 - track system
 - possible bike hire
- Promote a variety of experiences through park topography, vegetation and heritage
- Integrate track access with picnic facilities for shared use of facilities (toilets / picnics)
- Associated Car Parking
- Cafe / Kiosk and facilities
- Integrate interpretation into track facilities and signage

Picnicking facilities in the park, and;

- Provide in existing cleared areas
- Relate to areas / elements that have heritage "story" and build upon for design themes
- Consider most applicable approach:
 - centralised "high volume" facilities to control and focus impacts
 - more dispersed areas affording lower volume of use but potentially wider spread impacts (albeit less intense)
- Educate park users in sustainable practises through design of park facilities

Tourism activities;

- Provision of self guided educational walks/ cycling to trail network
- Guided cycling/ bushwalking activities to trail network and restricted access areas
- Facilities for educational tourism purposes including; education centre, overnight stays and interpretation
- Integrate sustainability research and development into park management and make accessible to park users
- Visitor facilities including; toilets and cafes / restaurants
- Event spaces and facilities including; function rooms and outdoor gathering areas

SUMMARY

Opportunities and constraints

The effective balance and integration of a sustainable level of usage with the natural and cultural values of the park is the fundamental challenge of the Masterplan. As has been outlined in the preceding review, the creek system and related floodplain support the most significant habitat on the site. Working from the premise that these areas have a higher conservation value and significance, these should form the core of conservation management in the Regional Park.

Key Factors Map

The Key Map indicates compilation of key influences on masterplanning decision making:

- Alluvial Woodland as most significant (endangered) vegetation and in the worst condition being located along creek corridors and within floodplain
- Creeks and water courses – high fauna habitat value
- Existing roads and tracks – fundamentally re-use existing infrastructure
- Adjoining open space to development and Regional Open Space – extended access network including potential for connections through Asset Protection Zones sit between the Regional Park and the new urban development

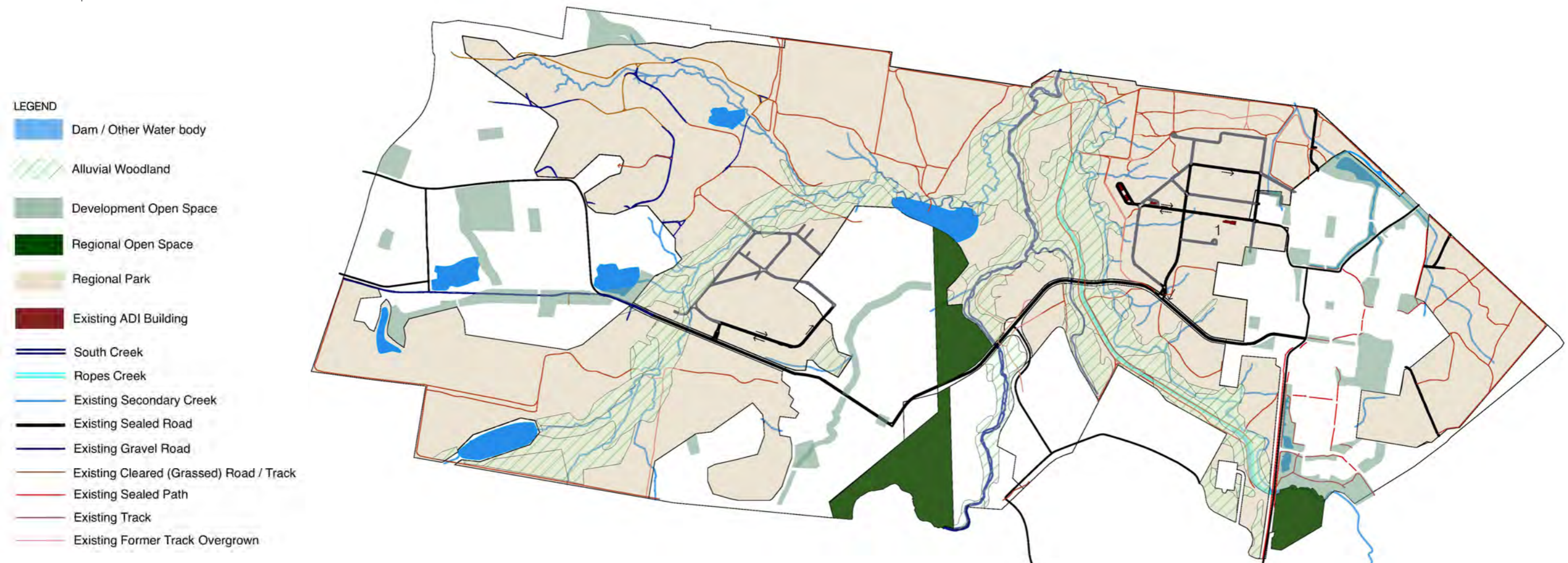


Figure 2.0 Opportunities and Constraints

SUMMARY

Regional Park Masterplan

The fundamental strategy embodied in the masterplan is the expression of the Regional Park in three management zones that will have varied balance of conservation, access and recreation emphasis:

- Zone 1 - Primary Habitat Focus
- Zone 2 - Secondary Habitat Focus
- Zone 3 - Recreation Focus

These will be linked by a system of access that focuses upon reuse of existing roads and track infrastructure. A description of the zones follows

Zone 1 - Primary Habitat focus:

- Encapsulates the Alluvial Woodland area and all creek corridors
- Incorporates the Aboriginal cultural heritage zone at the confluence of South and Ropes Creeks, the majority of the High Significance areas identified in the PoM, along with a large number of historical heritage sites
- Would generally be fenced to boundaries – 75% being a boundary to adjoining development / 25% to other RP zones
- Public access to be limited to guided access for special events and one fenced east west corridor (which generally replicates an existing) through the central area of Zone 1

Zone 2 - Secondary Habitat Focus:

- Areas that have potential to be pursued in the future for either Habitat (Zone 1) or Recreation (Zone 3) focus
- Areas that provide for access links but with limited recreation use
- May be fenced to boundaries – subject to relationship to adjoining areas (eg Zone 1) which may be fenced already at their boundary
- Public access will vary – but generally will be open to day to day pedestrian and cycle access but no public vehicular access
- Where no fencing provided – vehicular access management required to boundaries

Zone 3 - Recreation Focus:

- Areas to be pursued for a Recreation Focus – potential for a specific use and interpretational theme to each recreation zone
- Key location of access track system
- Location of recreational facilities
- Public access will generally be open at boundary for to day to day pedestrian and cycle access with public vehicular access to designated access roads to key recreation precincts (ie not necessarily to all recreation precincts)
- Where no fencing provided – vehicular access management required
- will fundamentally integrate habitat enhancement and conservation with recreational activities and maintain habitat and conservation qualities of area

Figure 6.0 - Regional Park Masterplan illustrates the relationship of the three zones and the access system. The plan identifies the location of three Precincts which are developed in further detail in section 5 of the report.

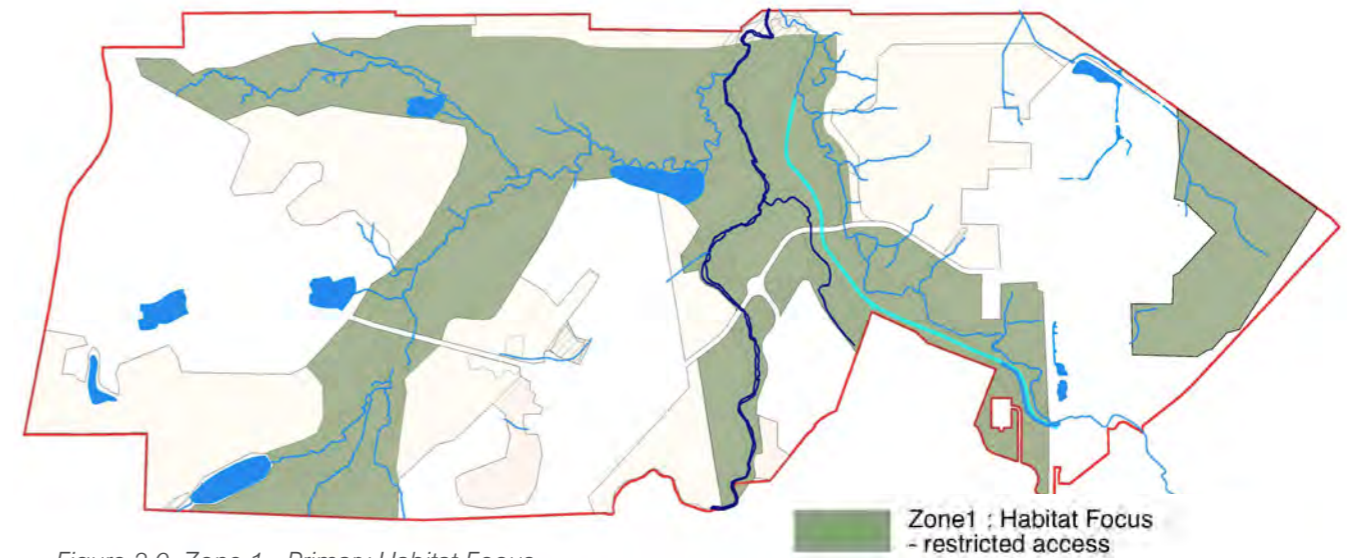


Figure 3.0 Zone 1 - Primary Habitat Focus

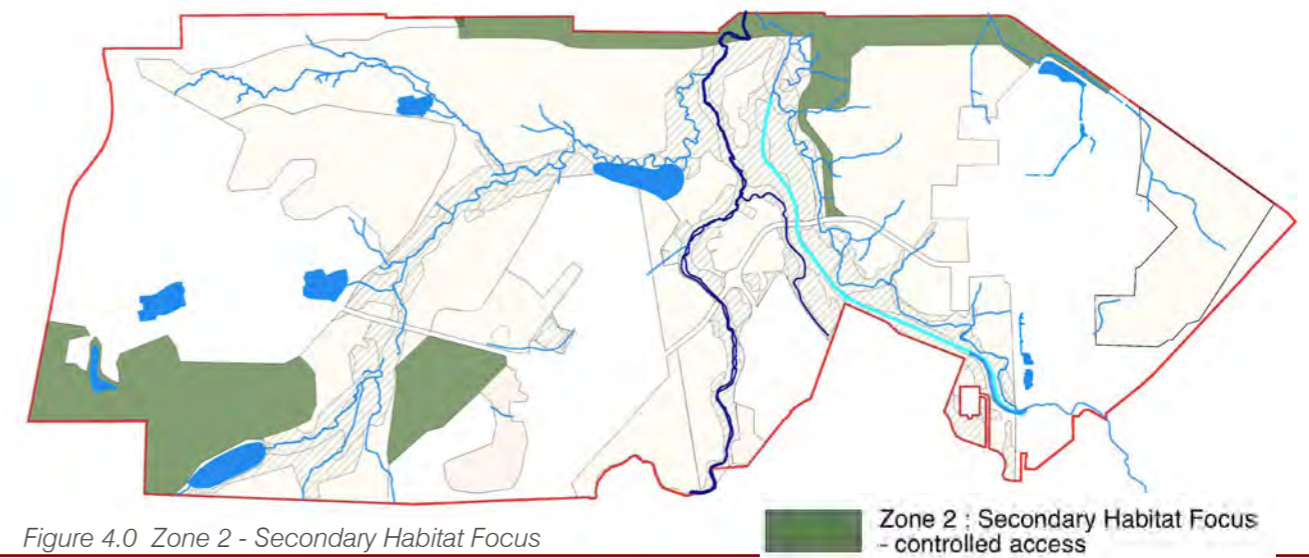


Figure 4.0 Zone 2 - Secondary Habitat Focus

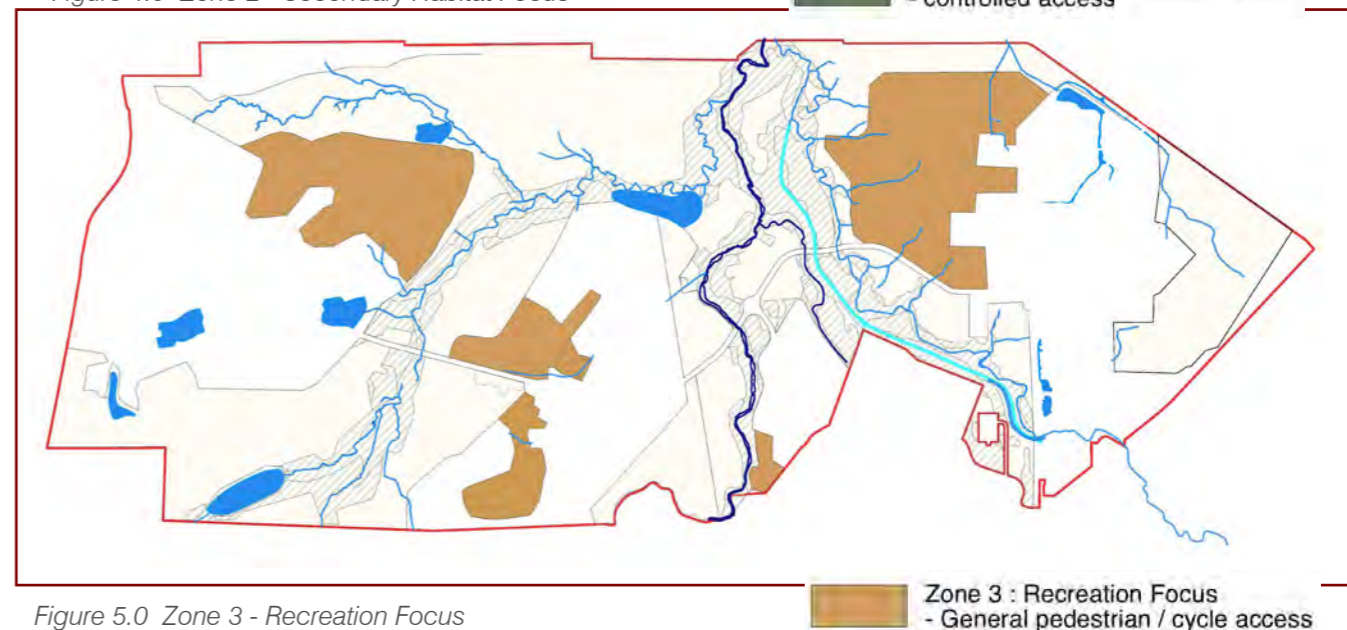


Figure 5.0 Zone 3 - Recreation Focus

SUMMARY



LEGEND

- | | | | |
|------------------------------------------------------|--------------------------------------|--------------------------------------|---------------------------------|
| Boundary recreation zone 3 | Existing Fence | Recreation Interpretation Experience | Pedestrian / Cycle Entry Access |
| Zone 1 : Habitat Focus - restricted access | Short Term Fence | Recreation Kick about Open Space | Vehicular Entry Access |
| Zone 2 : Secondary Habitat Focus - controlled access | Long Term Fence | Recreation Picnic Aeras | Parking - Event Carpark |
| Adjoining Development | Vehicular Access | Nursery | Parking - To Building |
| Open Space in Development | Interpretation Walks Access Existing | Visitor Centre and Event Hall | Parking - Daily |
| Regional Open Space | Interpretation Walks Access Proposed | National Park Work Shop | |
| Existing Vegetation Habitat | Shared Sealed Access | Multifunction Heritage Space | |
| Proposed Regeneration Areas | Shared Unsealed Access | | |
| | Adjoining Access Routes | | |

Note: All development areas are subject to change and represent indicative design for roads/ open space etc at the time of the Landscape Masterplan report being written.

Figure 6.0 Regional Park Masterplan



SUMMARY

Staging strategy

Priorities

PoM Management Objective	No	Criteria for prioritisation
Protection and enhancement of the natural heritage of the Park, particularly the endangered ecological communities and the threatened flora and fauna species through the management of fire, disturbed areas, drainage, introduced species, access and visitor use.	1.1	Implementation of required actions for stabilisation (ie prevention of further degradation) of sensitive or threatened environmental systems in the park
	1.2	Support implementation of recreational activities with require environmental protection measures as it proceeds
Recognition and protection of traditional and contemporary Aboriginal cultural heritage, landscape and spiritual values through providing opportunities for the involvement of the traditional owners and the local Aboriginal community in the protection, interpretation and management of their heritage and values	2.1	Implementation of required actions for protection / management of locations of Aboriginal cultural heritage significance
	2.2	Facilitation of structure that will promote and manage involvement of traditional owners in ongoing planning and design along with operation and management of the park
Protection of historic heritage through identifying, recording, conserving and interpreting historic items and places	3.1	Implementation of required actions for protection / management of locations of historic heritage significance
Protection of the catchment values of South and Ropes Creeks through managing any disturbances, particularly those associated with fire, access and drainage		Refer 1.1
Provision of recreational facilities that are appropriate in a regional context and are designed, located and managed to protect the natural and cultural heritage and visual values of the Park	4.1	Implementation of initial recreational facilities in locations with good accessibility to adjoining communities to : - establish awareness and profile of park - assist with management of security
	4.2	Implementation of recreational facilities as a holistic functional precinct to: - provide maximum impact in initial stages of community use - assist in simplification of management and maintenance in initial stages of community use
	4.4	Relate development of recreational precincts to the programme for implementation of adjoining urban development to: - take advantage of access and infrastructure availability - optimise security (avoid isolated recreational precincts in short term)
	4.5	Supplement functional precinct with path network beyond to support and enhance recreational experience
	5.1	Coordinated approach required to guide implementation of signage
Provision of interpretive and educational opportunities through signage, park brochures and activities to assist visitor understanding and enjoyment of the Park.	5.2	Implement to support functional precincts and to path network beyond

PoM Management Objective	No	Criteria for prioritisation
Improving knowledge of natural / cultural heritage, related threats and evaluation of management programs through research and monitoring. Working with other agencies and authorities, the community and commercial interests to maximise community interest and involvement in the conservation of the Park, and the implementation of sympathetic conservation measures in the neighbouring environment.	6.1	Refer 5.1 and 5.2
		Management of the park to develop and pursue partnerships in research, and provision and management of facilities

The criteria for prioritisation generate several common principles:

- Ensure that any required protection and management works to habitat and environmental systems that are threatened are undertaken as high priority
- Focus first priority recreational works on establishment of a holistic functional recreational precinct with good accessibility to adjoining community (urban development)

Staged Works programme

Works within the Regional park will vary within each zonal type as follows;

Zone 1 - Primary Habitat Focus (561ha 62% of RP area 2900 lin/m of boundary):

Ongoing general maintenance of these areas by NPWS will continue such as upgrading to existing fencing and fire trail / maintenance tracks. As well as ongoing macrofauna, vegetation and cultural heritage conservation and management.

Zone 2 - Secondary Habitat Focus (163ha 18% of RP area 18400 lin/m of boundary):

Ongoing general maintenance of these areas by NPWS will continue such as upgrading to existing fencing and fire trail / maintenance tracks. As well as ongoing macrofauna and vegetation management.

Future staged works will undertake construction of new trail connections including;

- recreation and maintenance tracks ,
- shareway access entries,
- interpretative signage/ art and
- boundary fence removal and relocation adjoining selective development interface

Zone 3 - Recreation Focus (186ha 20% of RP area 9641 lin/m of boundary):

- Stage 1 - Main Visitor Precinct
- Stage 2 - Western Visitor Precinct
- Stage 3 - Northern Central Recreation Precinct
- Future Works - Southern Central Recreation Precinct and Dunheved Heritage Precinct

Refer to Figure 7.0 Staging Plan on the following page

SUMMARY

Action Plan

The cost estimates below outline indicative development costs for the Wianamatta Regional Park Landscape Improvements. These are expressed in the proposed sequence of implementation order.

Stage One - Main Visitor Precinct and Zone One / Two Priority Works	Total - Stage One Works Incl Misc / Accel'n	\$6,430.5k
Stage Two - Western Visitor Precinct and Zone One / Two Priority Works	Total - Stage Two Works Incl Cont / Accel'n	\$7,794.5k
Stage Three - Central Visitor Precinct and Zone One / Two Priority Works	Total - Stage Three Works Incl Cont / Accel'n	\$4,151.5k
Ongoing Works - Zones 1 / 2 & Secondary Visitor Precincts	Total - Ongoing Works Incl Cont / Accel'n	\$3,294.9k

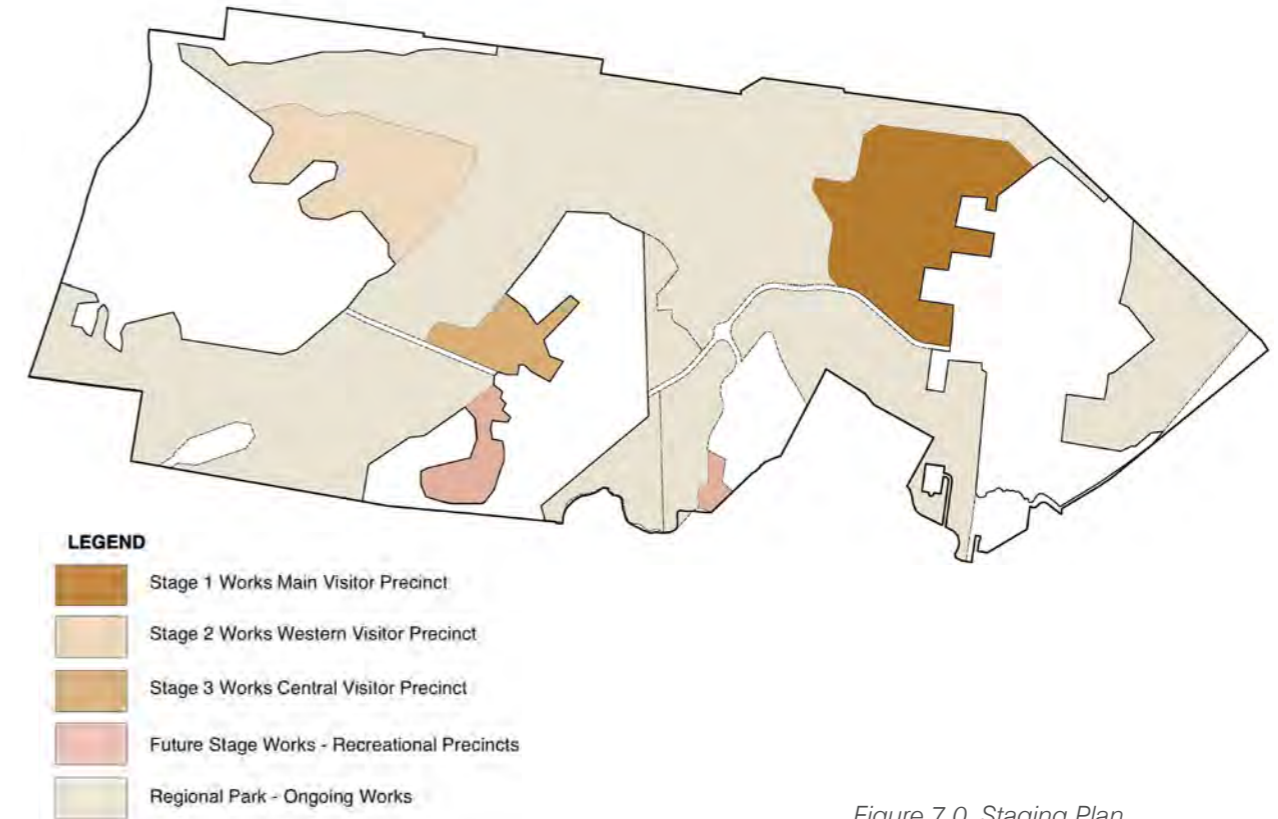
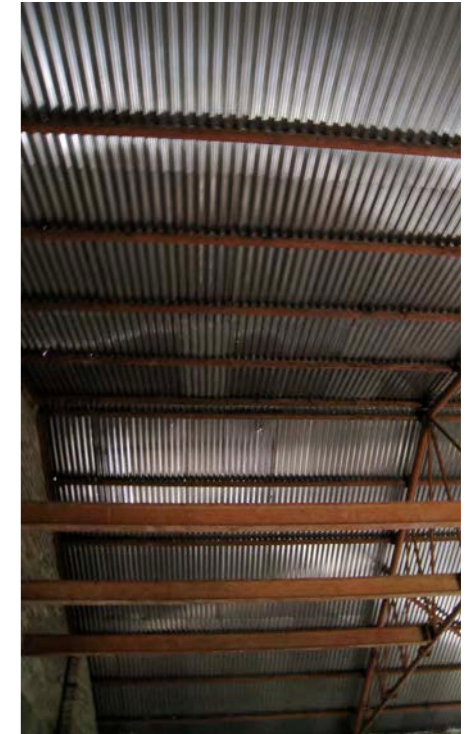


Figure 7.0 Staging Plan

Background



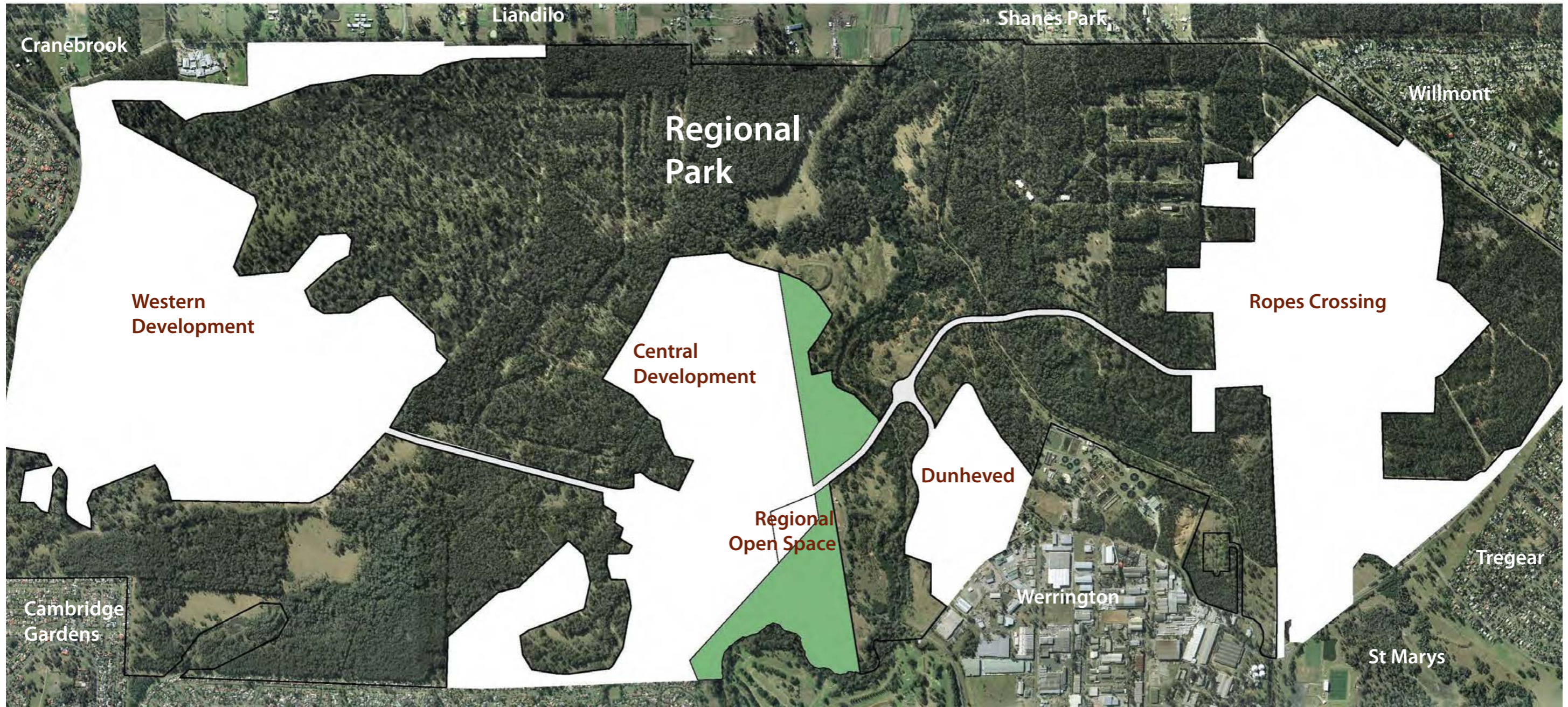
The Wianamatta Regional Park (WRP) covers approximately 900 hectares of the former Australian Defence Industries (ADI) site at St Marys in Western Sydney. The site is located approximately 45 kilometres (kms) west of the Sydney CBD, 5 Kms north-east of Penrith, and 12 kms west of Blacktown.

The overall ADI site has an area of 1545ha, and stretches roughly 7 kms east to west and 2 kms north to south. The residential suburbs of Willmot, Shalvey, Lethbridge Park, St Marys, Werrington County, Werrington Downs, Cambridge Gardens and Cranebrook bound the site to the south, west and east. The areas of Llandilo and Shanes Park lie to the north of the site and are rural in nature. The site sits within two local government areas, the eastern portion is within Blacktown Council area. The west is governed by Penrith Council. The Park is also within the traditional Darug Aboriginal country and the Deerubbin Local Aboriginal Land Council area.

The land developer (Delfin Lend Lease) portion of the site is expressed as five development precincts, Eastern (Ropes Crossing), Ropes Creek, Dunheved, Central and Western. The Dunheved Precinct supports employment development only, while the Central precinct will support both employment and residential land uses. All other precincts have a residential focus.

The masterplanning process for the Wianamatta Regional Parkland has considered sustainability as an over-arching principle and focus for the sites future use and development. This has taken into account the objective that all facets of the site and their inter-relationships are examined with a long term view to a sustainable future. This includes heritage components, built elements and their adaptive re-use, facilities and infrastructure and services. Beyond the physical fabric, sustainability also relates to the education of parkland users, the way in which the site is accessed and the promotion of both a local and global community.

The masterplan provides the long term directions for the sites development while also considering that a staged approach and action plan will be necessary to meet NPWS's budget constraints.



Core aims for development of the masterplan as identified in NPWS brief included:

- Identification and protection of significant heritage items
- Development of visitor facilities
- Provision of traffic circulation
- Provision of access routes into and within the park linking to regional wide connections
- Car parking and management of different landscape areas and boundary interfaces

Key project objectives are:

- To provide strategic direction based on the plan of management for future management of the park including long term conservation and landscape management outcomes;
- To identify broad scale conservation, use, linkages, services, infrastructure and access zones across the park;
- To identify key access points, connections and circulation routes; and
- To identify appropriate levels of access and visitor facilities across the park.

Site features

Natural Systems

Flora

The Park protects a number of Endangered Ecological Communities including Shale Plains Woodland, Cooks River/Castlereagh Ironbark Forest, Shale/Gravel Transition Forest and Alluvial Woodland. along with several wetland communities and Castlereagh Scribbly Gum Forest which are poorly represented in western Sydney. Generally the vegetation communities across the site have been highly impacted over many years from significant disturbance. As a result weed infestation has affected major areas across the park. The PoM identifies that fire is potentially an important factor in reestablishing vegetation communities such as the Cumberland Plain Woodland, as well as providing an effective weed management tool. The integration of such management strategies with recreational goals for the park is a significant challenge to be addressed.

dPoM Desired Outcomes

- The full range of native plant and animal species and their habitats found in the park is conserved.
- A diversity of vegetation structures and other habitat values are conserved, and restored where they have been subject to past disturbance.
- The endangered ecological communities and populations within the Park are protected.
- Rare, threatened & regionally significant native species and their habitats within the Park are protected.
- Park neighbours support conservation of remaining areas of privately owned native vegetation near the Park.
- Habitat linkages for biodiversity movement within a regional context are established and maintained.

Fauna

Careful management of macrofauna to sustainable levels will enable more holistic habitat values to be pursued which reflect the sites natural values and caters for a broad range of potential fauna species on the site. Management of uses should ensure that highest quality of potential habitat areas have a conservation focus.

dPoM Desired Outcomes

- A sustainable population of macrofauna will be retained in the Park.
- Any decision on long-term fencing for the management of macrofauna, once they have reached a sustainable population size, will seek the best possible environmental result.
- Protection of habitat of native species will include actions to minimise illegal activities.
- Threatening processes from surrounding urban areas are minimised.

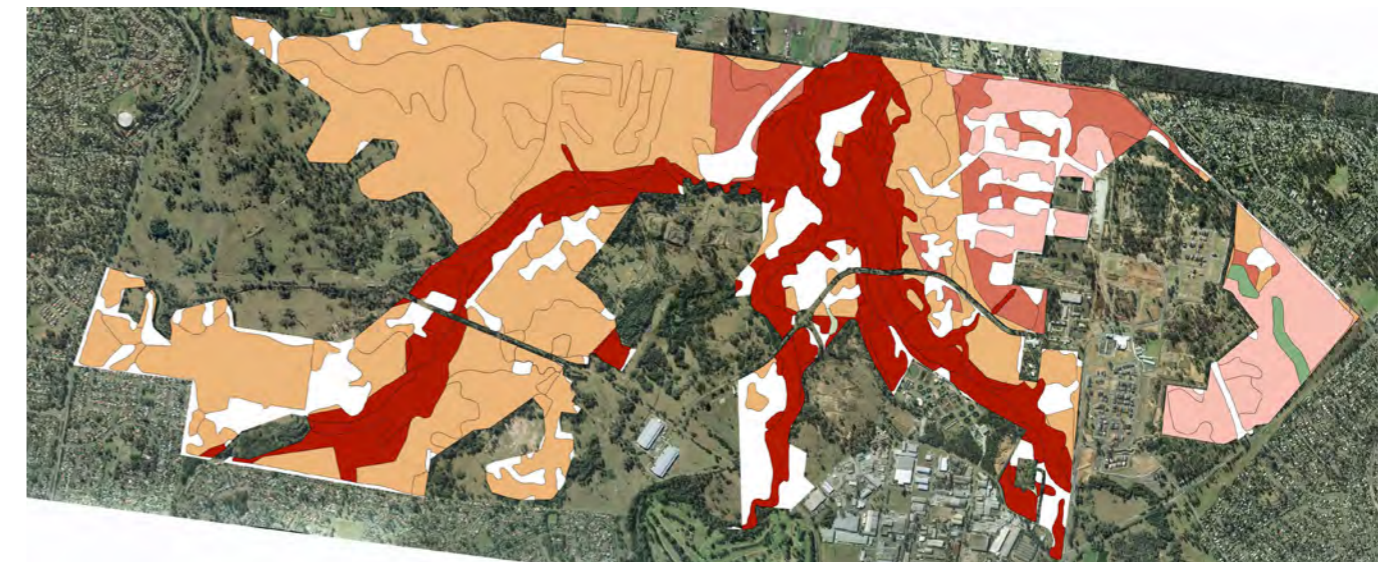


Figure: Vegetation Communities within the Regional Park

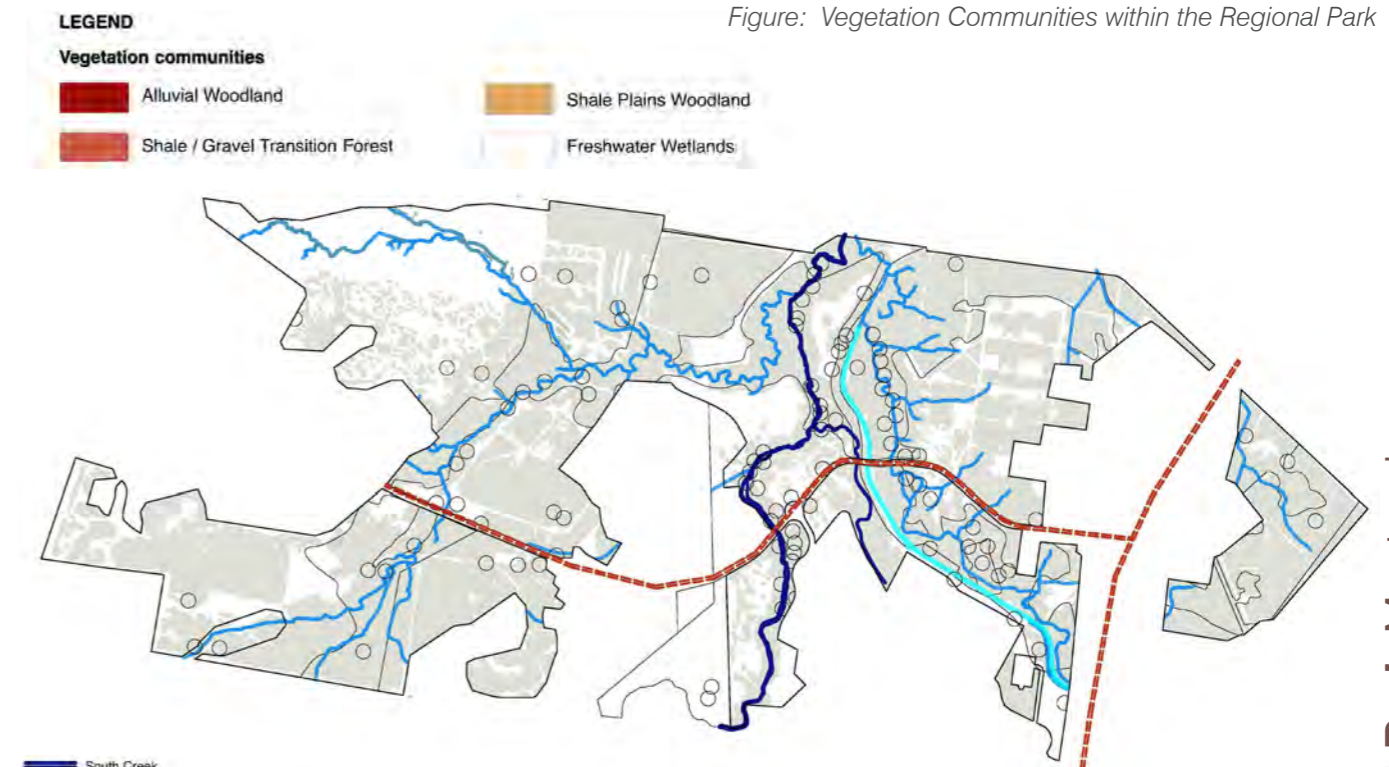


Figure: Fauna habitat within the Regional Park



Site Images: Existing flora and fauna found in the Regional Park
Fauna habitat within the Regional Park (Source: EP NSW)

Soils, topography and drainage

The landform of the regional park comprises several main units:

1. The central floodplain around the Ropes and South / Wianamatta Creek systems
2. The undulating plains adjoining
3. Higher steeper pockets in the east adjoining Forrester Road and northwest and southwest

These units shape much of the physical character of the site and as a result have influenced past landuse and ongoing opportunities and pressures for the Regional Park.

Extensive excavation undertaken during past land uses have resulted in much of the Regional Park being affected by poor drainage and soil erosion.

The Department of Infrastructure, Planning and Natural Resources (2002) modelling of the salinity potential for Western Sydney indicated that the area covered by the St Marys property has a moderate salinity potential especially along the creek lines (dPoM page 39). Residual contamination risks within Site 6, Site 23 and areas under existing infrastructure may require further investigation, remediation and validation during any construction process.

The four soil landscape groups identified in the Regional Park provide an important educational and research resource.

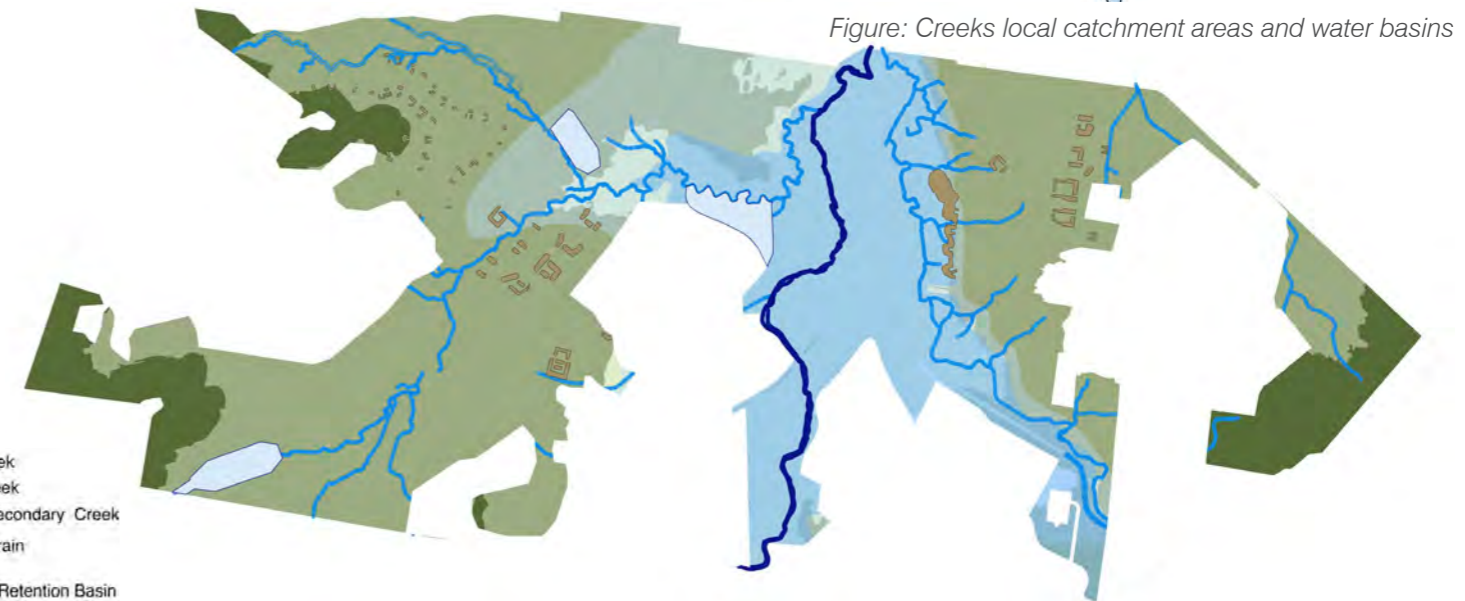
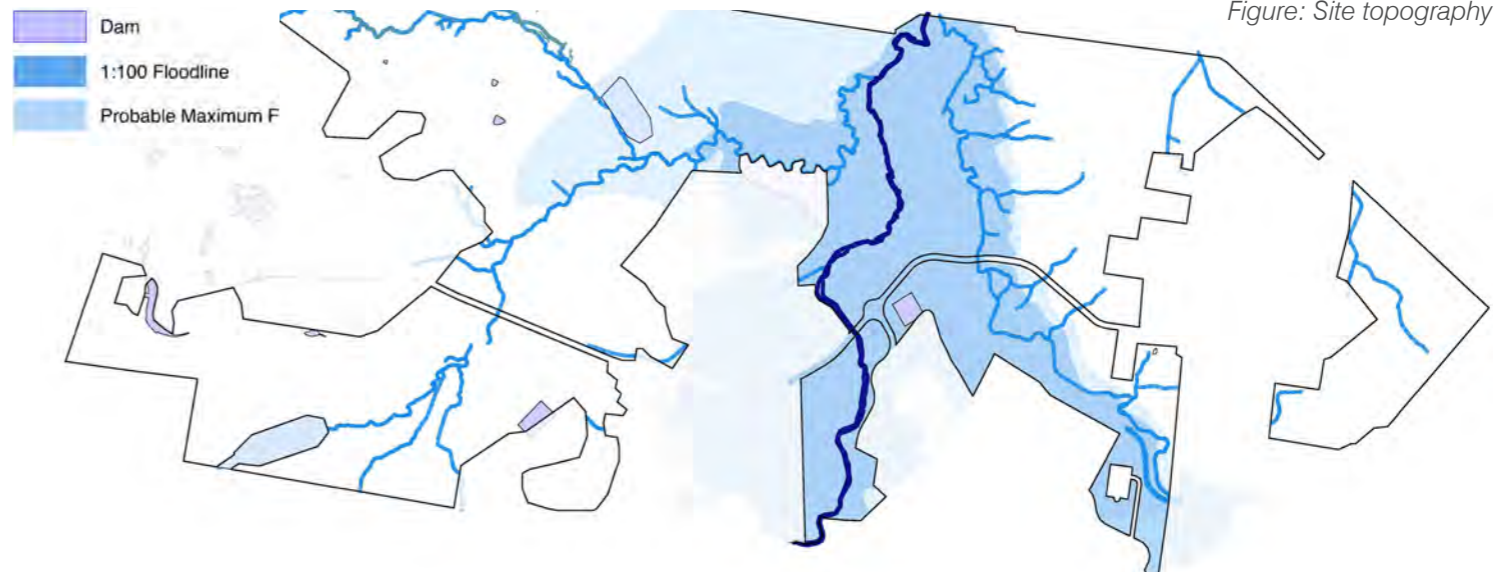
A total water management system has been designed by Delfin Lend Lease based on the St Marys REP to effectively manage the water quality entering and leaving the Regional Park and surrounding development precincts. This will include one to two additional basins adjacent the Regional Park adjacent the Western and Central Precincts and potential long term management of the remnant dam south of the Western Precinct.

dPoM Desired Outcomes

- Human induced soil erosion in the Park is minimised.
- Soil Management practises within the Park do not have any negative impacts on neighbouring landholders.
- Areas affected by soil erosion, salinity and contamination in the Park are identified and remediated.
- Use of water sensitive strategies in the design of recreational and interpretative facilities.



Site Images: A variety of topographical conditions (Source: EP NSW)



Heritage management & interpretation/ adaptive re-use

History

The land including and surrounding the Park has been subject to three major eras of land use in the last 200 years:

- 1) colonial land grants and associated settlement and farming activities;
- 2) the establishment of an explosives and filling factory during World War II; and
- 3) the establishment of the munitions factory and storage facility during the mid-1950s.

Significance

dPoM Desired Outcomes

- Aboriginal sites and places are protected from damage by human activities.
- Aboriginal people are involved in management of Aboriginal cultural and natural values in the park.
- Historic features are appropriately documented, conserved, managed and interpreted.
- Community and NPWS knowledge and understanding of Aboriginal and historic values within the Park is increased.
- Intact landscape units are preserved as a means of protecting Aboriginal heritage.

Heritage Themes

The Conservation Management Plan written concurrently with this report identified the following heritage themes which are to be protected and interpreted as part of the Landscape Masterplan, including;

- An ongoing oral history programme of interviewing former defence era works and nearby residents to record their memories of the site's uses and heritage values could be invaluable (DoP letter).
- The CMP identified the following key Historic themes and key messages for Wianamatta Regional Park which should be developed through interpretation including;
 - A Resilient Landscape Restores
 - Wianamatta - Our Mother Country
 - Living and Working this Land
 - Making Munitions
 - Revitalisation and Conservation

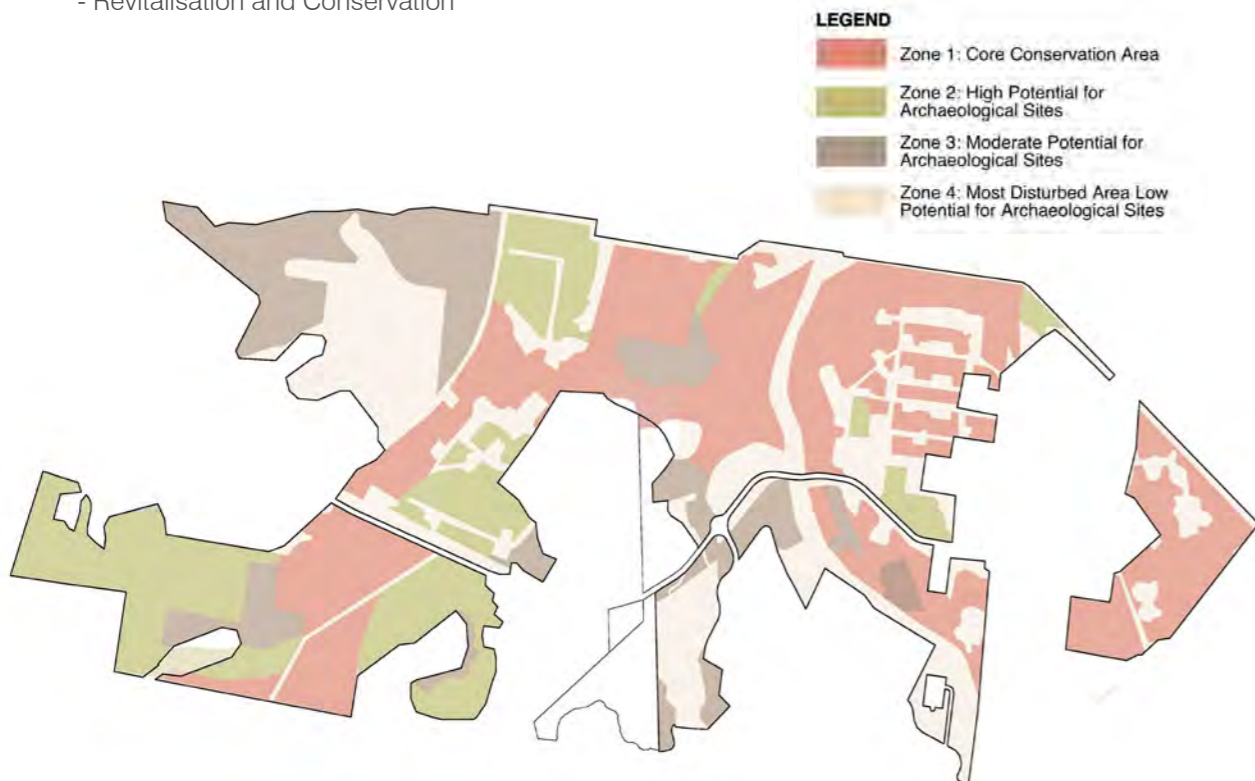


Figure: Pre European settlement archaeology (Jo McDonald)

Significance of individual elements

Jackson's Dairy

- Jackson's Dairy site comprises both the above-ground ruin of the dairy bails and the sub-surface structural remains, as well as the adjacent archaeological house site.
- Archaeological relics deriving from the site may shed light on certain elements of the local area's history small-scale farming initiatives.
- The archaeological site is also within a cleared area which provides a setting evocative of the farming use of the site. These sites also represent an important (Growth and Development) phase in the history of the local area.

Luxford's Orchard (Remnant)

- Evidence of orchards and possible outbuildings associated with Luxford's farm represent continue local agricultural development from the late nineteenth to early twentieth century.

Road and Bridges from Growth and Development Phase

- The late nineteenth century road linking Llandilo to the Northern Road and the two associated bridges crossing Ropes and South Creeks provides evidence of the infrastructure associated with farming during Growth and Development Phase and is evocative of this period.

Chimney Site

- The chimney ruin and sub-surface structural features form the remains of a 20th century house. This house site is representative of rural regional development.
- This site is within a larger cleared landscape edged to the east by an arc of retained, mature eucalypts. This shared cleared area links it visually to Jordan Hill (see below).
- The western edge of the cleared area includes a track which also linked these properties with the outside world and also served Jackson's dairy. The group of sites in this central precinct of the Wianamatta Regional Park is evocative of the interdependence of rural holdings in the area in the Growth and Development Phase.

Jordan Hill Site (NOT within Regional Park Boundary)

- Jordan Hill homestead was one of the better-known nineteenth century dwellings (the Growth and Development phase), which was demolished sometime after 1940. Archaeological features, deposits and relics may have potential to make a contribution to an understanding of the evolution and activities of an early rural homestead complex within a local rural tenancy context.
- A number of groves of deciduous trees are escapee remnants of the homestead. A number of mature eucalypts indicate managed plantings within the cleared farm setting (see Chimney Site, above). The site is listed on the Register of the National Estate.

Rail and Road Networks from Munitions Phase

- Rail and road networks provide the clearest physical indication of the disbursement of the ADI St Marys factory operations across the site and the scale of these operations.
- These transport systems include major road and rail corridors, tight networks of roads within functional areas and feeder roads between functional areas and transport corridors. Along with the remaining buildings and earthworks associated with demolished buildings, these networks provide a basis for an understanding of the processes and scale involved in munitions manufacture.

Views and Vistas

- Views and vistas are limited due to the natural topography of the site and due to the regrowth of vegetation. A number of significant historical views exist at the site:
 - View from and to Dunheved house site and the King plantings;
 - Views between Jordan Hill and House Site;
 - View from Jordan Hill and House Site to the access track to the west;

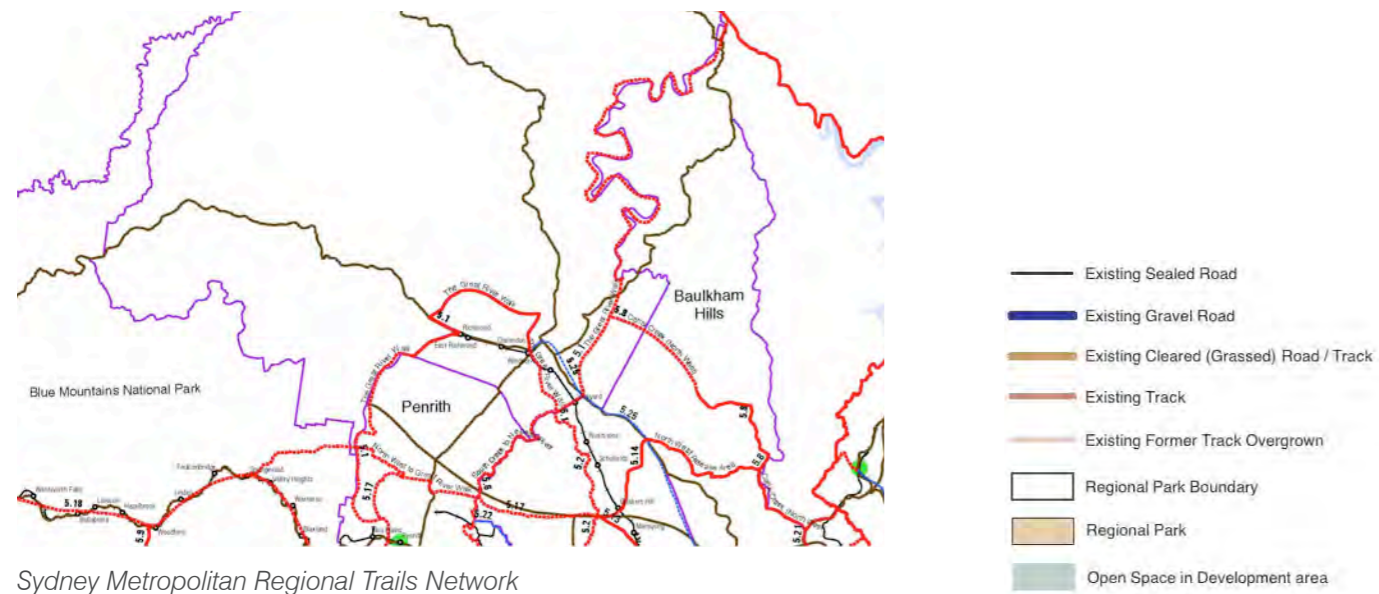
Access and relationship to adjoining communities

Generally the Regional Park has good potential for connections to the south through the South and Ropes Creek corridors linking through to the Western Sydney Parklands. These links have been defined in previous strategies as outlined below. At this time links to the north are less well defined and as such future connections should be considered in ongoing management and liaison with Councils. Particularly those to existing open space/ bushland areas such as Castlereagh Nature Reserve and possible NPWS managed lands in in Shane's Park and Cranebrook. Key opportunities to the north are along South / Wianamatta Creek and road corridors (Second Ave / Northern Road). Access through the development will ultimately provide signaled intersections to Northern Road which will enhance commuter and recreational cycle links to the west.

Cycle and Pedestrian Links to existing and future cycleway and open space networks in adjoining developments and suburbs should be utilised to maximise community use of the Regional Park.

dPoM Desired Outcomes

- There is community recognition of the park in the provision of recreational opportunities within the context of regional and local space
- There is community recognition of support for sympathetic conservation management on lands surrounding the Regional Park
- Visitors are can easily find their way to park facilities and recreational trails



Sydney Metropolitan Regional Trails Network

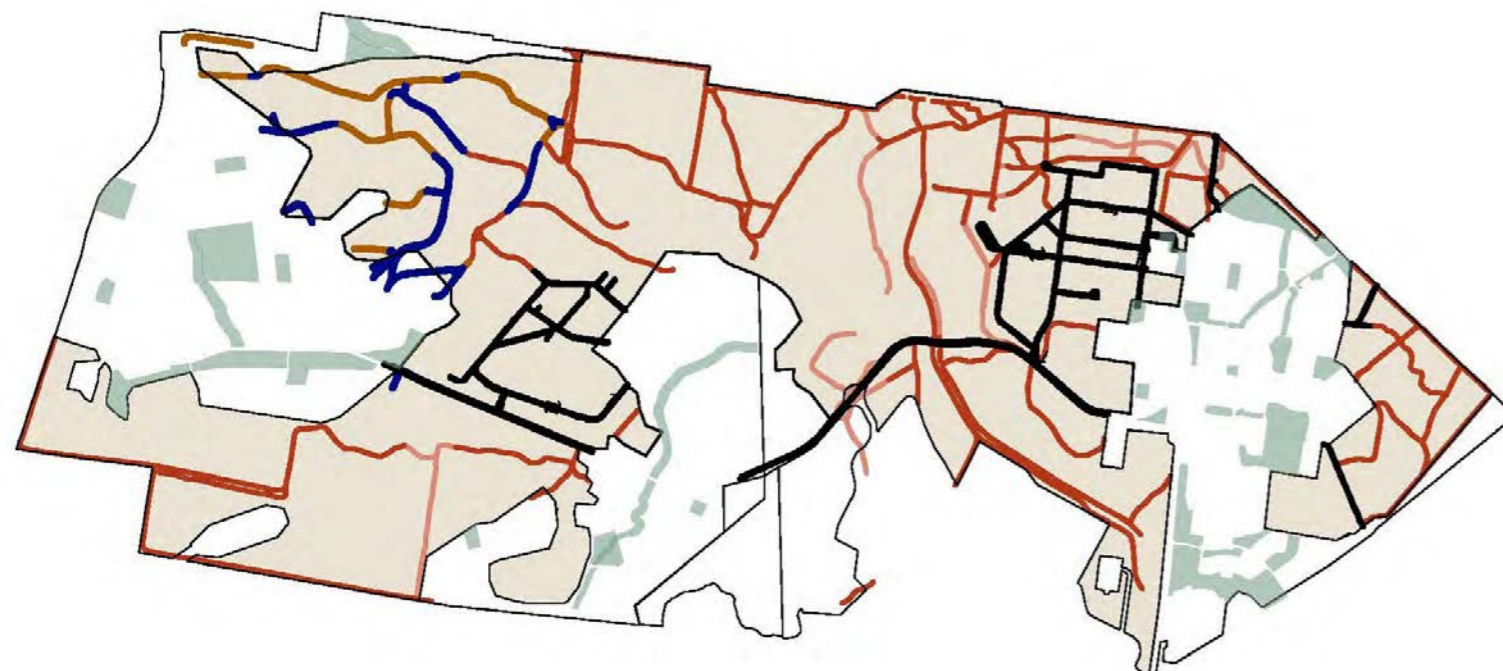


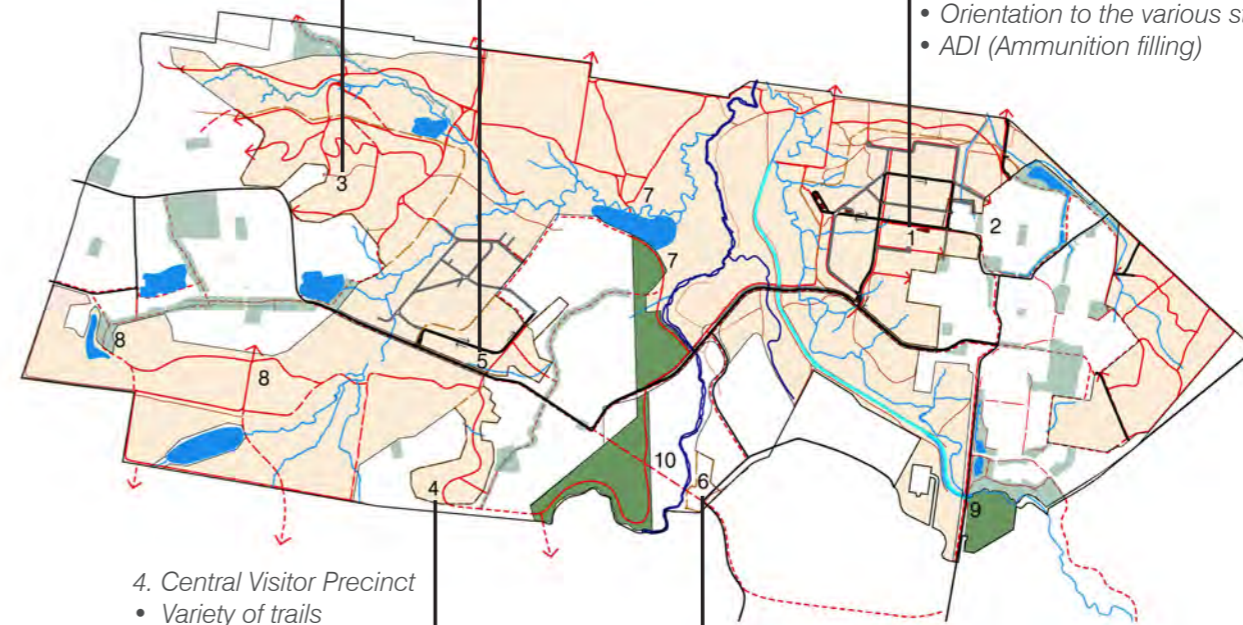
Figure: Compilation of existing roads and tracks on the site

Recreation

3. Western Visitor Precinct
 - Variety of trails for cycle and pedestrian access
 - Dispersed picnic areas
 - Heritage design themes
 - Agriculture

5. Event Amphitheatre
 - Vehicular access & parking for day to day use
 - Event amphitheatre
 - Heritage design themes
 - ADI (Bomb filling)
 - Potential location of possible plant nursery

1. Main Visitor Precinct
 - Visitor Centre
 - Cafe / Kiosk
 - Parking
 - One way vehicular access road
 - Picnicking
 - Class One (accessible) track and boardwalk loops / vantage points
 - Possible
 - Short criterion course (special events)
 - Heritage design themes
 - Orientation to the various storage
 - ADI (Ammunition filling)



4. Central Visitor Precinct
 - Variety of trails
 - Heritage design themes
 - Elizabeth Farm site

6. Dunheved Homestead
 - Interpretation driven landscape design
 - Picnic areas
 - Access link on heritage railway line
 - Heritage design themes
 - Gov King homestead

Key

1. Main Visitor Precinct
2. Main entry zone
3. Western Visitor Precinct
4. Central Visitor Precinct
5. Potential Events Amphitheatre
6. Dunheved Homestead
7. Jordans Hill - Jackson's Dairy
8. Native Grass research
9. Beecroft Butchery
10. Cycle path to heritage rail line

LEGEND

- | | | |
|------------------------------------------|---------------------------------------------------------------------------------|----------------------------------|
| Regional park | Proposed Pedestrian / Cycle Access within adjoining developments and open space | South Creek |
| Dam / Other Water bodies | Proposed Pedestrian / Cycle Access within Regional Parklands | Ropes Creek |
| Development Open Space | Proposed Pedestrian / Cycle linkage through Habitat Zone or Regional Open Space | Existing Secondary Creek |
| Regional Open Space | Proposed Pedestrian / Cycle Access Entry and Connections | Existing Sealed Road (main) |
| Existing ADI Building for adaptive reuse | | Existing Sealed Road (secondary) |
| | | Existing Gravel Road |

Figure: Appraisal of potential locations of uses based on PoM scope of uses



Site Image: Existing cleared grassed road / track



Site Image: Existing gravel road



Site Image: Existing sealed road

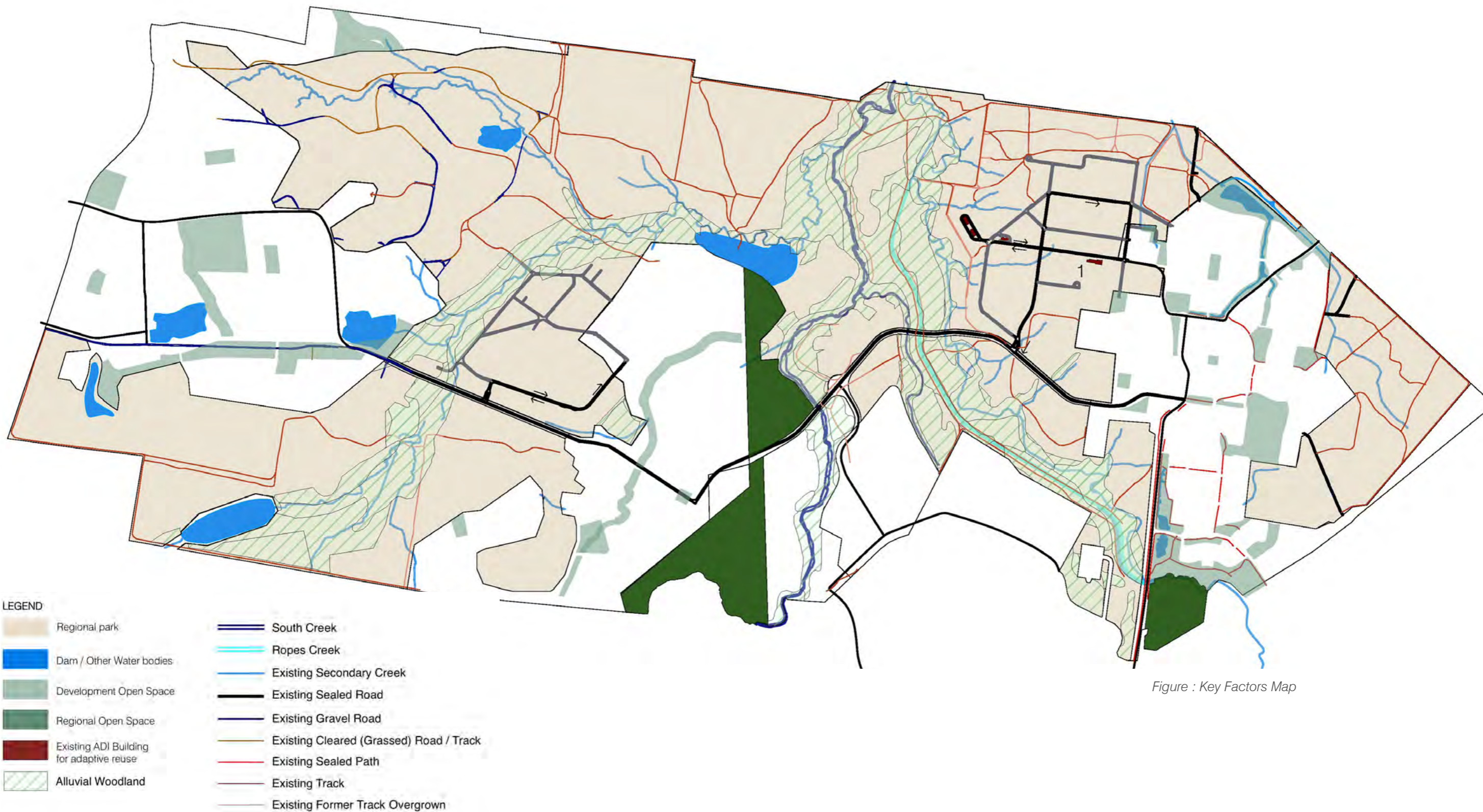


Figure : Key Factors Map

The Key Factors Map indicates a compilation of key influences on masterplanning decision making:

- Alluvial Woodland as most significant (endangered) vegetation and in the worst condition being located along creek corridors and within floodplain
- Creeks and water courses – high fauna habitat value
- Existing roads and tracks – fundamentally re-use existing infrastructure
- Adjoining open space to development and Regional Open Space – extended access network including potential for connections through Asset Protection Zones to development

Masterplan

Masterplanning strategies

The fundamental strategy embodied in the draft masterplan is the expression of the Regional Park in three management zones that will have varied balance of conservation, access and recreation emphasis:

- Zone 1 - Primary Habitat Focus
- Zone 2 - Secondary Habitat Focus
- Zone 3 - Recreation Focus

These will be linked by a system of access that focuses upon reuse of existing roads and track infrastructure. A description of the zones follows;

Zone 1 - Primary Habitat focus:

- Encapsulates the Alluvial Woodland area and all creek corridors
- Incorporates the Aboriginal cultural heritage zone and the majority of the High Significance areas as determined in the model
- To generally be fenced to boundaries – 75% being a boundary to adjoining development / 25% to other RP zones
- Public access to be limited to guided access for special events and one fenced east west corridor (which generally replicates an existing corridor) through the central area of Zone 1

Zone 2 - Secondary Habitat Focus:

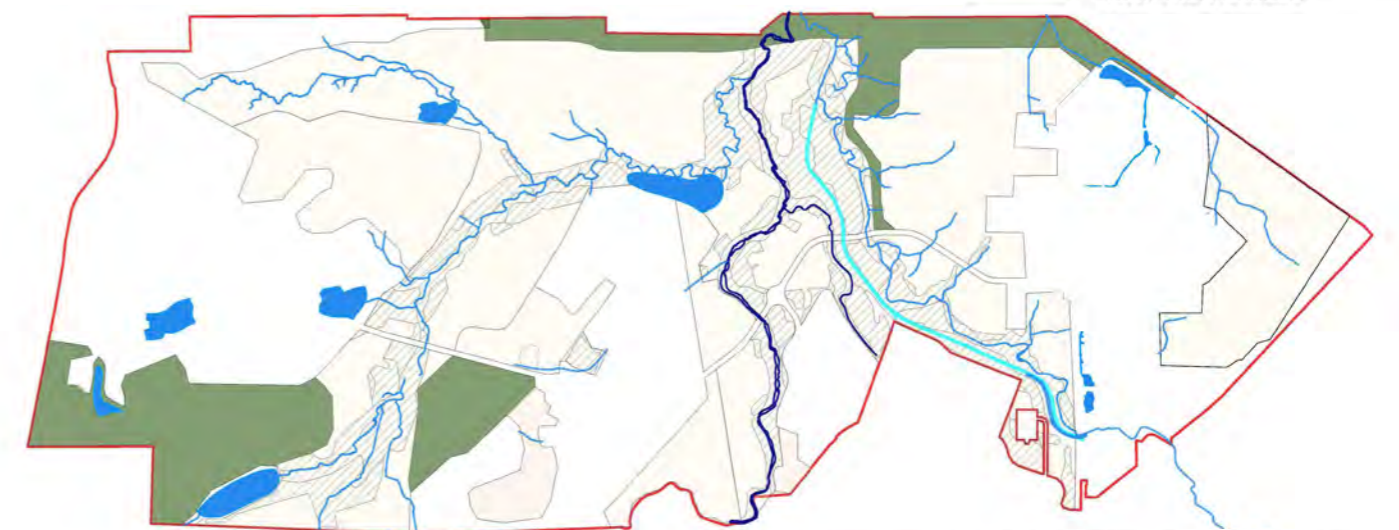
- Areas that have potential to be pursued in the future for either Habitat (Zone 1) or Recreation (Zone 3) focus
- Areas that provide for access links but with limited general recreation use
- May be fenced to boundaries – subject to relationship to adjoining areas (eg Zone 1) which may be fenced already at their boundary
- Public access will vary – but generally will be open to day to day pedestrian and cycle access but no public vehicular access
- Where no fencing provided – vehicular access management required to boundaries

Zone 3 - Recreation Focus:

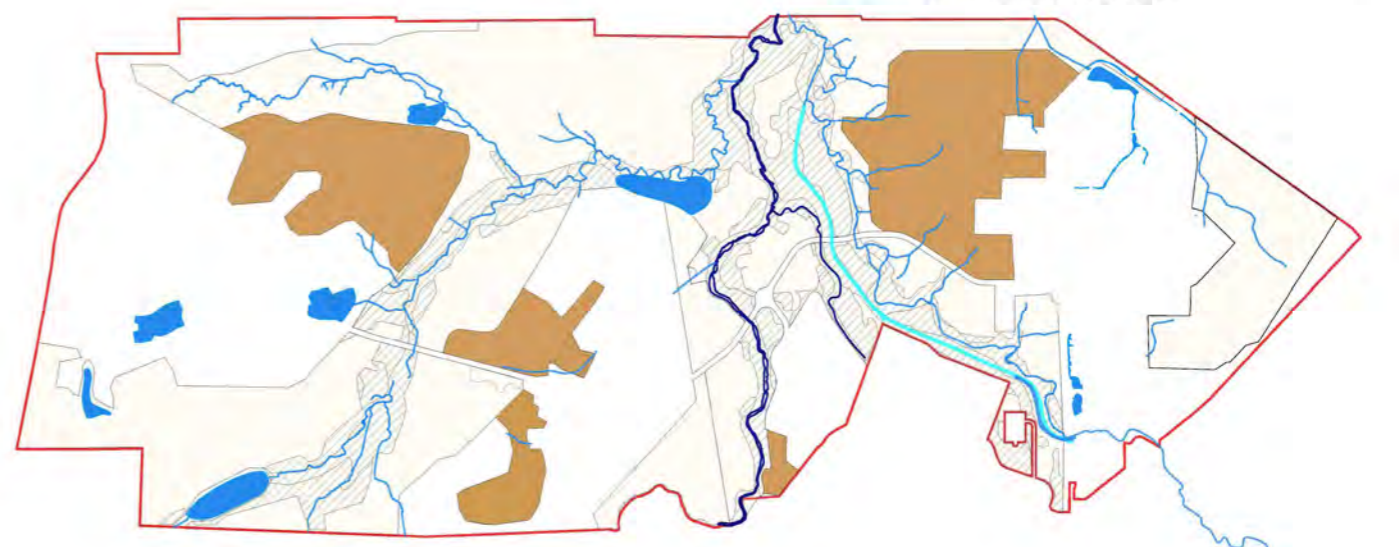
- Areas to be pursued for a Recreation Focus – potential for a specific use and interpretational theme to each recreation zone
- Key location of access track system
- Location of recreational facilities
- Public access will generally be open at boundary for to day to day pedestrian and cycle access with public vehicular access to designated access roads to key recreation precincts (ie not necessarily to all recreation precincts)
- Where no fencing provided – vehicular access management required
- Will fundamentally integrate habitat enhancement and conservation with recreational activities and maintain habitat and conservation qualities of area



Zone 1 - Primary Habitat Focus



Zone 2 - Secondary Habitat Focus



Zone 3 - Recreation Focus

Staged Works Programme

Works within the Regional park will vary within each zonal type as follows;

Zone 1 - Primary Habitat Focus (561ha 62% of Regional Park area 2900 lin/m of boundary):

Ongoing general maintenance of these areas by NPWS will continue such as upgrading to existing fencing and fire trail / maintenance tracks. As well as ongoing macro fauna and vegetation management.

Zone 2 - Secondary Habitat Focus (163ha 18% of Regional Park area 18400 lin/m of boundary):

Ongoing general maintenance of these areas by NPWS will continue such as upgrading to existing fencing and fire trail / maintenance tracks. As well as ongoing macro fauna and vegetation management.

Future staged works will undertake construction of new trail connections including;

- recreation and maintenance tracks,
- long term fauna connections
- shareway access entries,
- interpretative signage/ art and
- boundary fence removal and relocation adjoining selective development interface

Zone 3 - Recreation Focus (186ha 20% of Regional Park area 9641 lin m of boundary):

Undertake works where adjoining urban development is in progress to facilitate servicing, access and security

Stage 1 - Main Visitor Precinct - implement as highest priority

Stage 2 - Western Visitor Precinct - ongoing implementation

Stage 3 - Northern Central Recreation Precinct - ongoing implementation

Future Works - Southern Central Recreation Precinct and Dunheved Heritage Precinct

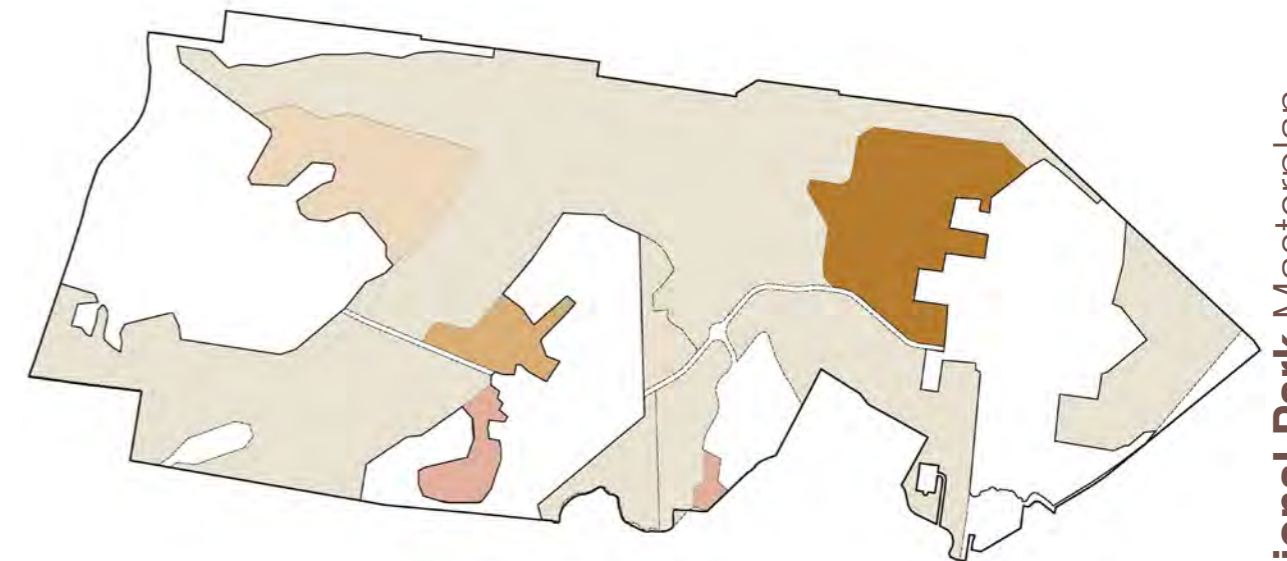
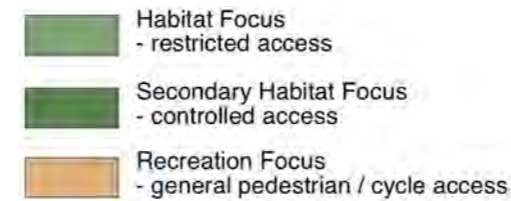
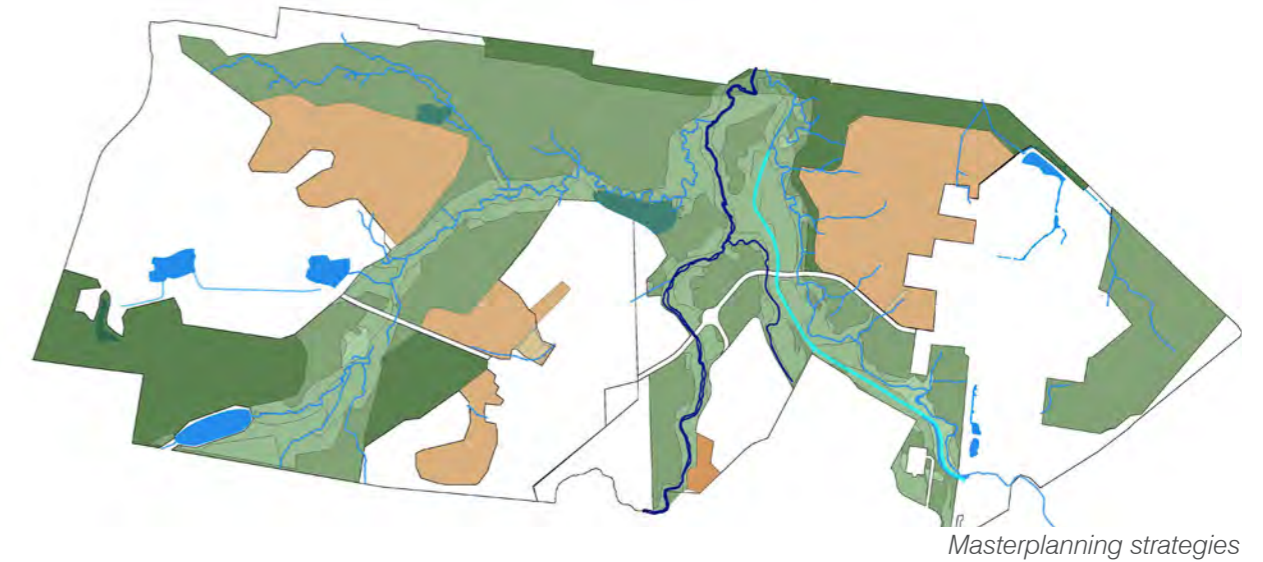


Figure: Wianamatta Regional Park Masterplan

Masterplan - Park Zone I

Primary Habitat Focus (163ha 18% of RP area 18400 lin /m of boundary)

LEGEND	
	Boundary recreation zone 3
	Zone 1 : Habitat Focus - restricted access
	Zone 2 : Secondary Habitat Focus - controlled access
	Adjoining Development Ropes Crossing
	Open Space in Ropes Crossing Development
	Existing Vegetation Habitat
	Newly Regenerated Areas
	Newly Revegetated Areas
	Fence : 2.1m Fauna Proof
	Fence : Post and Cable
	Fence : 1.5m Height
	Vehicular Access
	Existing Tracks Proposed as Interpretation Walks
	Interpretation Walks Access Proposed
	Shared Sealed Access
	Shared Unsealed Access
	Adjoining Access Routes
	Recreation : Interpretation Experience
	Recreation : Kick about Open Space
	Recreation : Picnic Areas
	Nursery
	Visitor Centre and Event Hall
	National Park Work Shop
	Multifunction Heritage Space
	Pedestrian / Cycle Entry Access
	Vehicular Entry Access
	Parking - Event Carpark
	Parking - To building
	Parking - Daily



Figure : The Regional Park Masterplan

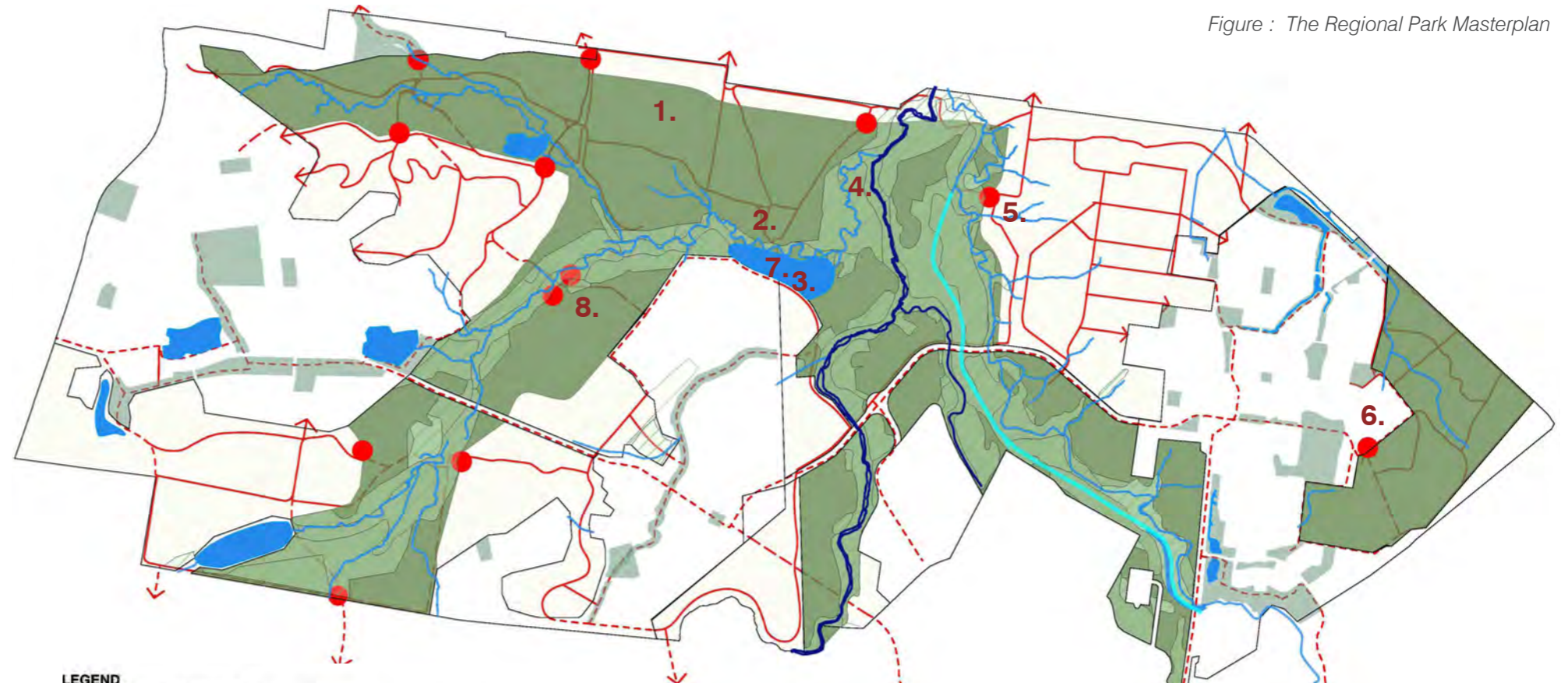


Figure Zone 1 - Primary Habitat Focus

1. Obsolete Storage Area - provide interpretation on track access
2. Jackson's Dairy remnant building, house site and cleared area
3. Jordan Hill house site and cleared area
4. Access for guided walks in zone 1 from Main Visitors Precinct
5. Opportunity to interpret Silcrete Quarry on adjoining Asset Protection Zone (APZ) pathway/ maintenance and guided access entry
6. Coordinate construction / protection of remnant Chimney in Regional Park Site
7. East West public shared access link corridor with security fence set back from path edge (visual buffer)

LEGEND	
	Zone 1 : Habitat Focus - restricted access
	Water bodies
	Alluvial Woodland
	Security Gate / Management access related to existing track access

Primary Habitat Focus (163ha 18% of RP area 18400 lin /m of boundary)

Flora & Fauna Management

- Weed management and regeneration of Alluvial Woodland riparian corridors
- Weed management and regeneration of other Cumberland Plains sub communities
- Long term macrofauna community resides within zone 1 of the Regional park
- Selected management of existing cleared areas to support heritage significant house sites
- Selected management of existing exotic plantings to support heritage significant house sites
- Areas adjoining boundary fencelines to adjoining development are to be planted at denser spacings to ensure maximum visual buffer
- Fauna links via underpasses between sections of zone 1



Site Image : Habitat focus (Source : EP NSW)

Heritage / Interpretation

- Explore virtual visits through online interpretation resources
- Track system will function for maintenance and research functions in addition to providing for signage for guided tours through Zone 1
- Interpretation should address the layered values of natural and cultural heritage
- Potential "time capsule" interpretation of natural environment management through use of "then and now" views of bushland
- Interpretation / place marker signage at locations of cultural heritage significance:
 - Jacksons dairy and related clearings / plantings
 - Jordan Hill home site
 - obsolete ADI storage area (possible markers)
- Aboriginal naming of areas of zone 1 as determined by Aboriginal stakeholders
 - Aboriginal naming of track links through all park areas
 - Develop public artwork programmes to interpret the history and heritage of the site
 - Specific historic phases eg munitions may be interpreted



Conservation and interpretation of cultural landscape features



Access, Circulation and Carparking

- Secured boundary with 2.1m high black macro fauna proof chain wire fencing to contain macro fauna but maintain movement of smaller fauna via canopy etc.
- General retention of existing track system to provide for maintenance access and research functions through zone1
- Retention of key east west public shared access link through zone 1 between central precinct of urban development and western regional park recreational precinct - provision of security fencing set back from track edge with visual buffer
- Maintain bridge crossing to creekline of east west link track
- Monitoring of track surfacing - progressively upgrade crushed rock surface and cross track drainage to highest use / most needing links
- Potential for loop track access as aboriginal "song line" with supporting interpretive signage and markers
- Track system to provide for guided tours through Zone 1 - run as themed events eg:
 - environment and habitat
 - aboriginal heritage



Site Image : Secure boundary (Source : EP NSW)

Recreation, Visitor Facilities & Services Infrastructure

- Secured boundary to full perimeter of Zone 1
- Security gates at designated access points on existing track network to provide for management and guided group access
- Interpretation / place marker signage at locations of cultural heritage significance as per heritage / interpretation
- Selected placement of sitting rocks at gathering / interpretive points along song line walk and other interpretive walks



Site Image : Guided tours (Source : EP NSW)

Masterplan - Park Zone 2

Secondary Habitat Focus (163ha 18% of RP area 18400 lin/m of boundary)

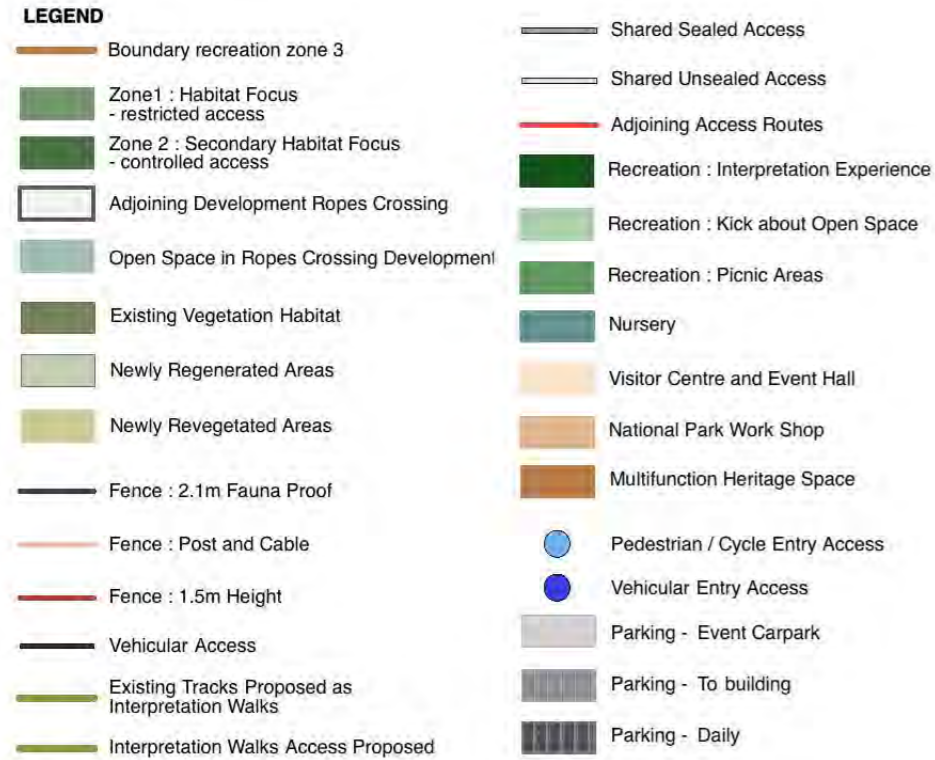


Figure The Regional Park Masterplan

- Key**
1. Grass clearings - potential native grass research - interpretative signage for past CSIRO use
 2. South Creek Bridge (repair / refit deck upgrade for pedestrian / cycle areas & provide signage map)
 3. Ropes Creek Bridge (repair and adapt upgrade for pedestrian / cycle areas & provide signage map)
 4. Road alignment - conserved as shared access trail - provide interpretative signage
 5. Luxford orchard site - interpret with historic photos
 6. Past property boundaries reflected by existing track alignment

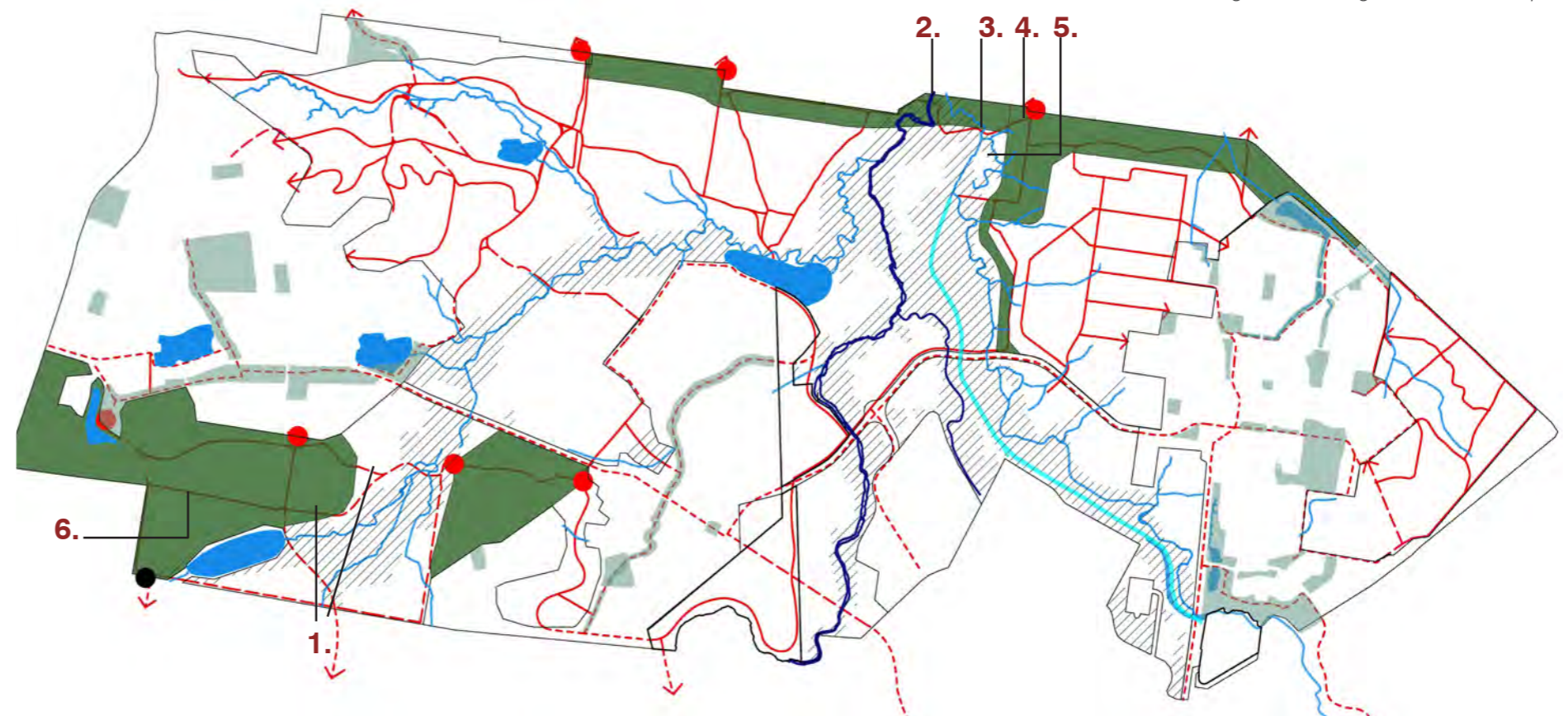
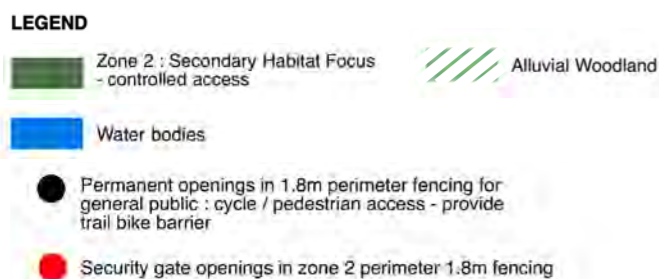


Figure Zone 2 - Secondary Habitat Focus

Secondary Habitat Focus (163ha 18% of RP area 18400 lin/m of boundary)

Flora & Fauna Management

- Long term weed management and regeneration of Cumberland Plains sub communities
- Revegetation to provide visual buffer along boundary and to adjoining development
- Long term macrofauna community to be removed from zone 2 to ensure safety for important public access routes through the zone
- Selected management of existing cleared area to support heritage significance of past CSIRO research area and allow for future native grass research in Regional Park

Heritage / Interpretation

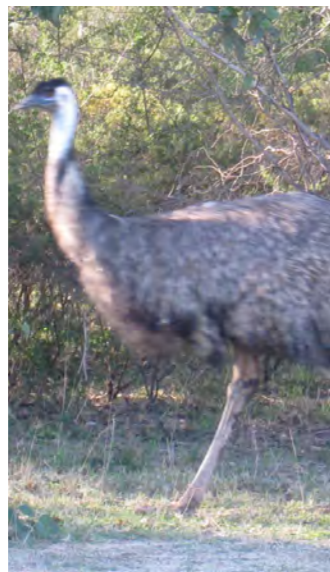
- Track system will function for recreational access and connections between recreational precincts
- Interpretation related to track access should address the multiple values of natural and cultural heritage values
- Potential "time capsule" interpretation of natural environment management through use of "then and now" views of bushland
- Conserve and manage remnant orchard plantings to Luxford Orchard site
- Interpretation / place marker signage at locations of cultural heritage significance:
 - Luxford Orchard
 - Ropes Creek bridge
 - Wianamatta (South) Creek Bridge
 - Past road alignment east west along north of site
 - CSIRO research clearing
- Aboriginal naming of track links through all park areas
- Public artwork

Access, Circulation and Carparking

- Zone 2 facilitates access between recreational precincts
- General retention of existing track system to provide recreational and linking access
- Secured boundary along boundaries to adjoining landholders (1.8m high security fence)
- Permanent openings at adjoining roads and open space links for pedestrian / cycle access with trail bike barrier systems
- Monitoring of track surfacing - progressively upgrade crushed rock surface and cross track drainage to highest use / most needing links
- Entry orientation signage at public access points
- Upgrade bridge crossing at Ropes Creek for maintenance, cycle / pedestrian access having regard for heritage fabric
- Upgrade bridge crossing at Wianamatta (South) Creek for maintenance, cycle / pedestrian access - upgrade for limited width to allow retention of relic fabric of structure for remainder subject to structural advise

Recreation, Visitor Facilities & Services Infrastructure

- Secured boundary to selected locations for short term / medium term security of macrofauna management
- Vehicular/ trail bike control to any unfenced boundaries
- Interpretation / place marker signage at locations of cultural heritage significance as per heritage / interpretation
- Selected placement of sitting rocks at gathering / interpretive points along song line walk and other interpretive walks



Site Image : Long term macro fauna removal for safety of public access (Source: EP NSW)



Upgrade bridge link across South Creek maintaining section of bridge as relic fabric (Source: EP NSW)

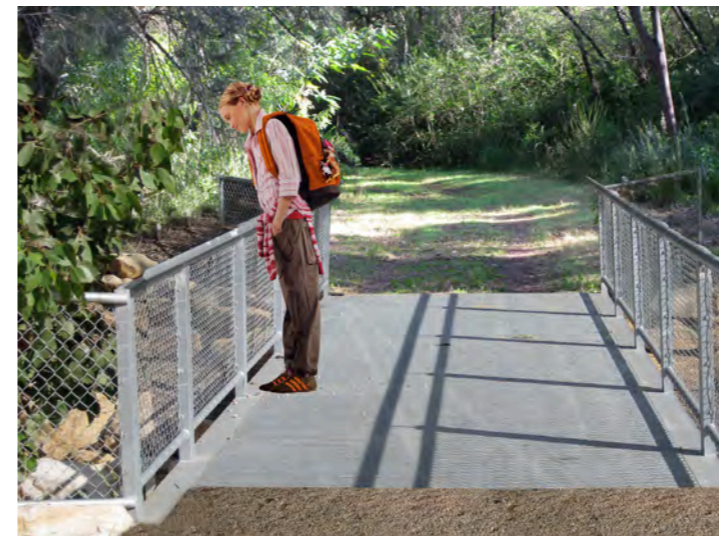


Illustration - upgrade bridge link across Ropes Creek having regard for heritage fabric (Source: EP NSW)



Site Image : Maintenance access (Source: EP NSW)

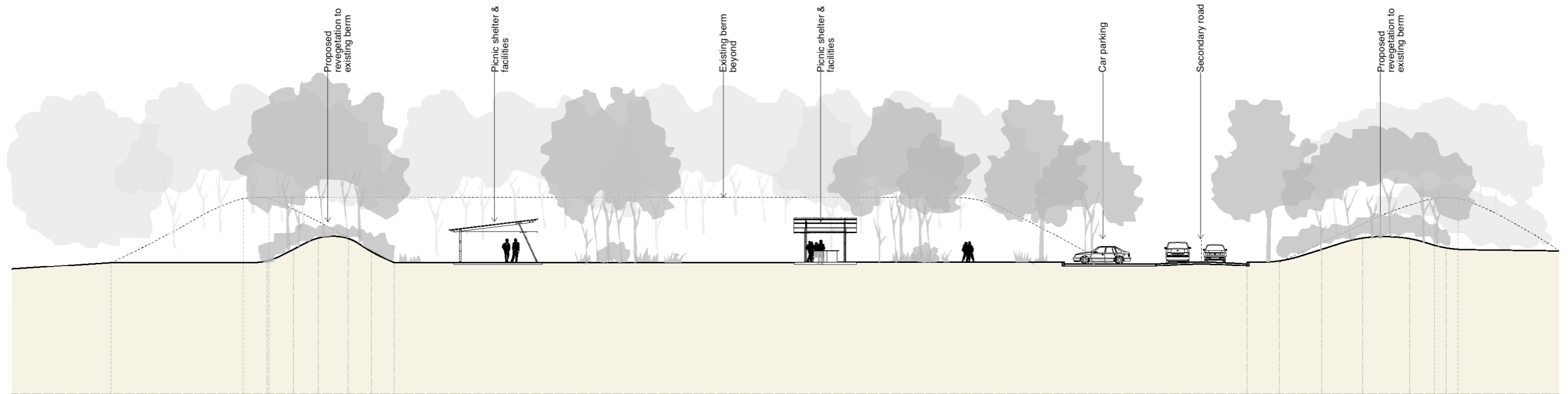
Masterplan Precincts

Park Zone 3 - Recreation Focus: Stage One Works Main Visitor Precinct

Detailed precinct plans have been prepared for the main park entrance and visitor precinct in the east of the Park. It is anticipated that this precinct will be undertaken as priority stage works.



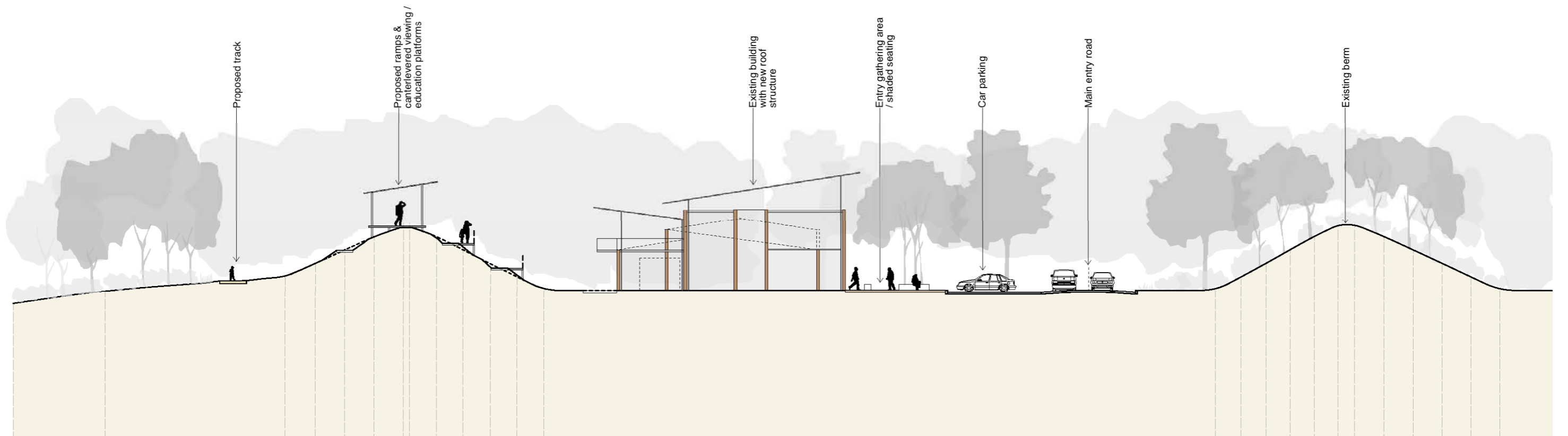
Park Zone 3 - Recreation Focus: Stage One Works Main Visitor Precinct



Section AA

scale 1:300 @ A3

Figure: Main Visitor Recreation Precincts Section AA



Section BB

scale 1:300 @ A3

Figure: Main Visitor Recreation Precincts Section BB

Masterplan Precincts

Park Zone 3 - Recreation Focus: Stage One Works Main Visitor Precinct

Flora & Fauna Management

- Regeneration and selective Revegeration of Alluvial Woodland, Shale - Gravel Transition Forest, Cooks River Castlereagh Ironbark Forest and Shale Plains Woodland species to occur throughout this precinct.
- Revegetation planting areas located adjacent entries and Visitor facilities are to be planted at denser spacings to ensure maximum visual impact



Site image: frontage areas to buildings requiring further planting Source: EP NSW



Site image: existing low lying areas to precinct (Source: EP NSW)



Site image: existing cleared areas to be retained as open space recreation gathering (Source: EP NSW)



- LEGEND**
- Boundary recreation zone 3
 - Existing Vegetation Habitat
 - Newly Regenerated Vegetation
 - Vehicular Access One Way System

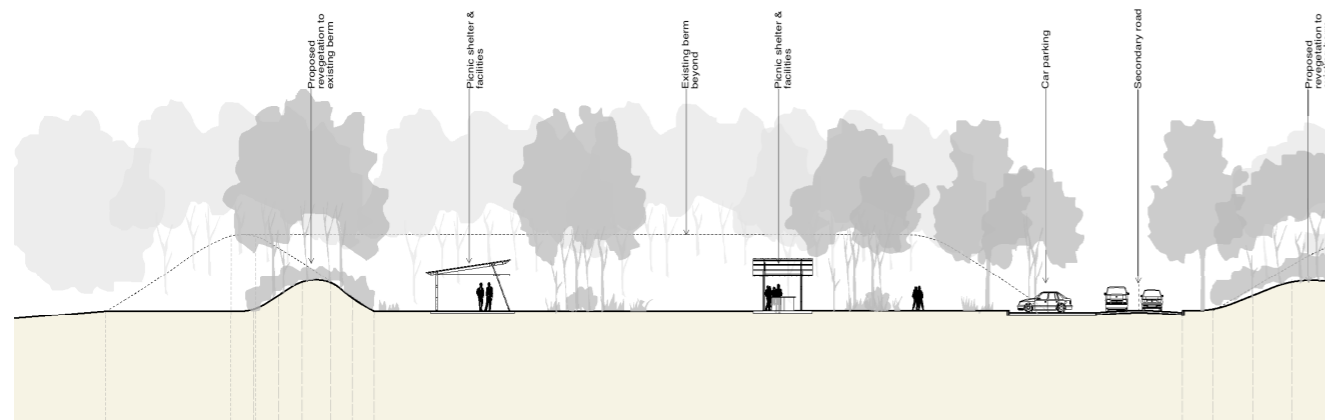


Figure: Cross section - showing detail of possible adaptive refurbishment of Mine Filling building

Heritage / Interpretation

Most of the Main Visitor Precinct was used as the Shell Filling Area during the ADI's sites Munitions and Storage Project 590 phase which occurred on site between the 1950s and the 1990s. Four buildings were retained as they did not require remediation during site demolition/ remediation and were retained for their heritage values. The role of these buildings can be interpreted in the naming of recreational spaces, as summarised below;



Figure: ADI Functional Areas - for potential interpretive naming of spaces

1. Breaking Down Building
2. Rocket Assembly Building
3. Cartridge Assembly Buildings (2)
4. Meissner Shell Filling and Finishes Building
5. Test Range
6. Medium Calibre Shell Filling Building
7. Heavy Calibre Shell Filling Building
8. Mine Filling and Finishing Buildings
9. Workshops and Stores
10. Heritage Totems (multi-themed)



Figure: Main Visitor Precinct adaptive reuse Plan



Reuse building 1 - Visitor centre and event hall



Reuse building 2 - NPWS workshop maintenance depot



Reuse buildings 3 & 4 - multi-function space - potential usage • Shaded Parking • School camping/ education • Bike storage/ rentals

Traffic Circulation and Car parking, Connectivity & Linkages

- Two key vehicular access points are proposed, one from the Ropes Crossing Development to the east linking to an internal one way sealed road system and a second exit (or possible entry/ exit) on to the East -West Road located to the south of the Precinct.

- A number of pedestrian/ cycle entries will be provided along the precinct boundaries to the adjoining development. As this precinct will contain facilities such as the main visitor centre that are prone to vandalism the precinct is proposed to be secured in the evenings, and as such these will be lockable gateways.

To several locations sections of parkland will be permanently publicly accessible through openings in a post and cable barrier which prevents vehicular access

- Several key pedestrian / cycle (and Maintenance) entry / links will also be provided through the Regional Park to the Central Visitor Precinct and to Shanes Park (to the north) and northern regional links.

A series of existing ADI tracks have been retained to provide the basis for walk /cycle track networks within the precinct.

- The existing sealed roadway network will provide for internal vehicular circulation to proposed picnic and gathering uses in cleared areas. This roadway (potentially including road not generally open to public) could also be used for special events such as criterium cycling or the start of fun runs. Major upgrading of sealed roads is not required. The retention of character width alignment is desirable.

- The remainder of the existing sealed road will provide for cycle / walking access to the balance of the recreational precinct. Major upgrading of roadways is not required. It is desirable to retain the character of the munitions phase fabric.

- Day use parking will be limited to park edges and designated road side spaces along the one way system, one small car parking area adjacent the Main Visitor Centre (Mine Filing building - S29).

- Bus and event parking will include two unsealed areas, one at the secondary eastern entry and one centrally located.

- Consideration should be given to reuse of existing transit store buildings to the west for temporary undercover parking.



Site image: Day to Day parking adjoining open space areas (Source: EP NSW)



Site image: The main park entry will occur via Ropes Crossing Boulevard through Ropes Crossing including the public cycleway from the Forrester's Road roundabout (Source: EP NSW)

Recreation, Visitor Facilities & Services Infrastructure

- NPWS information points are to be located at key entries to the precinct as both a way finding tool and educational tool to promote understanding of habitat and heritage within the Wianamatta Regional Park area and specifically to the Main Visitor Precinct.

- A second series of information points are to be located throughout the precinct as both a way finding tool and interpretative walk through interactive story telling and web links which outline habitat values and heritage of the Wianamatta Regional Park area and specifically to the Main Visitor Precinct.

3 Toilet facilities are to be located where possible within the remnant building footprints. Disabled toilets should be incorporated into these locations.

Public toilets to more isolated areas within open spaces are to be considered as part of the overall open space network located within the adjacent Ropes Crossing precinct outside the Regional Park boundary.

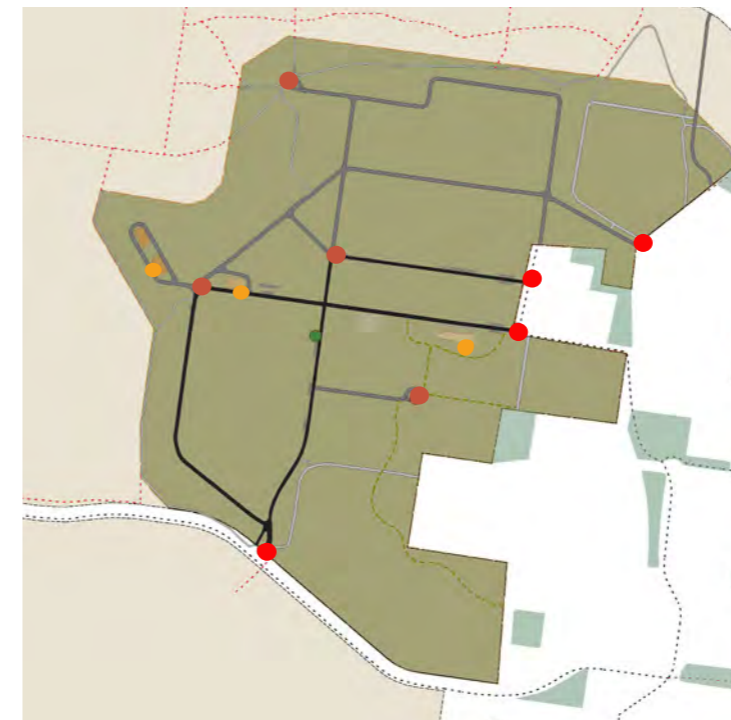


Figure: Visitor facility locations to Main Visitor Precinct Plan



Figure: Montage depicting typical toilet block provided between Transit Stores in west of precinct (Source: EP NSW)

- Visitor facilities locations are to include picnic benches/ tables and shelters. Visitor facilities can incorporate interpretation as outlined in the Materials and Finishes section. These are to be spaced throughout the precinct to allow for differing habitat experiences within the precinct found along pedestrian and cycle track routes.

- A self guided interpretative walking track route is to circulate through the precinct which includes a sequence of historic and habitat experiences. A portion of this walk adjacent the Main Visitor Precinct is to incorporate all abilities decked access to ADI berms located around Munitions filling and remnant bushland habitat experience.

- Smaller cleared maintained grasslands area are to be maintained for day to day gathering - these are to incorporate picnic facilities and some specific interpretation art works and signage. Additional tree planting for shade should be incorporated into design development.

- A large cleared grasslands event area is to be maintained as a large gathering open space for markets / outdoor cinema etc which includes overflow carparking area.



Figure: Recreation locations within Main Visitor Precinct Plan

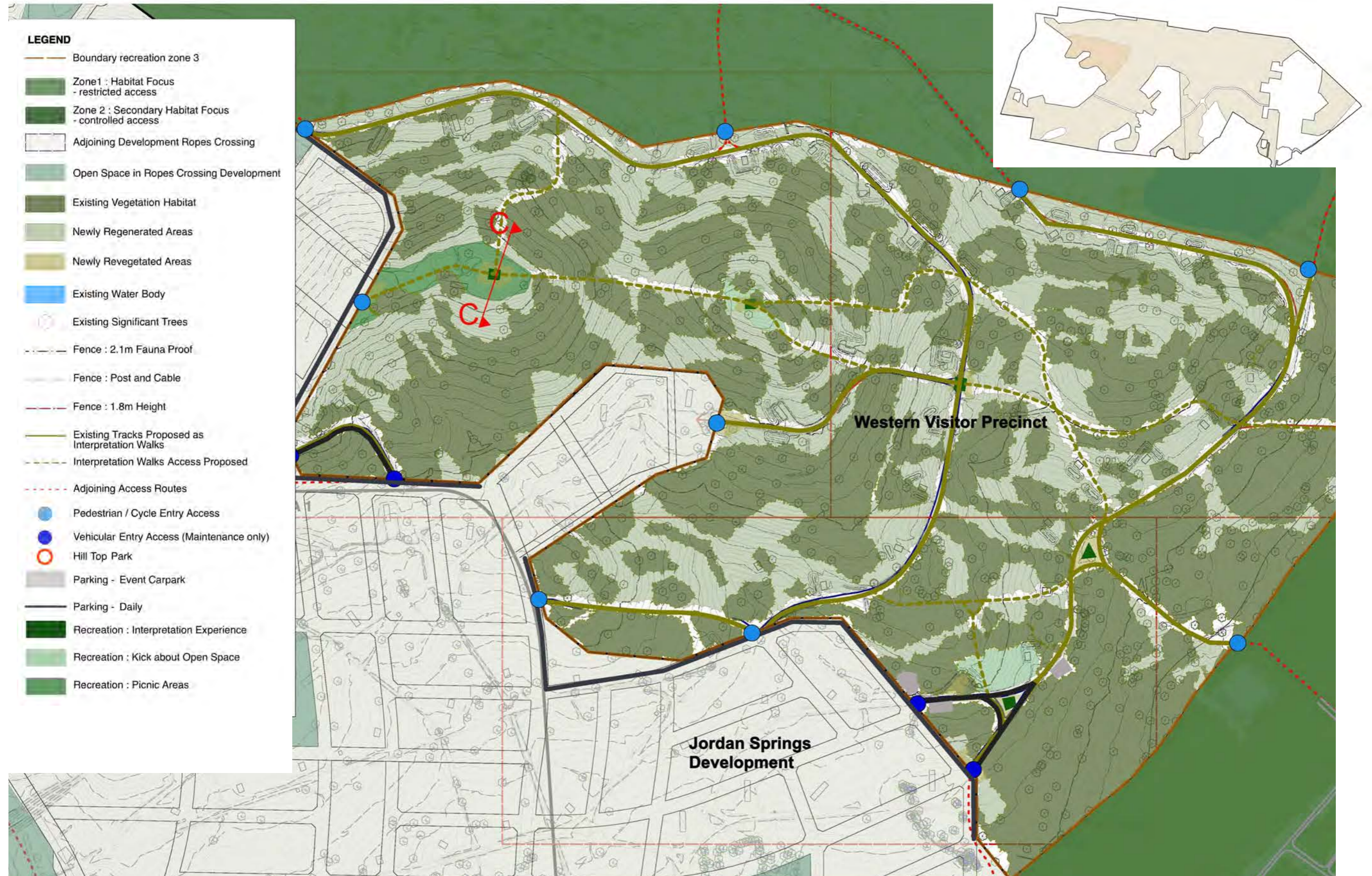


Figure: Montage of Day to Day Recreation within Main Visitor Precinct - picnic use of cleared areas to past shell filling buildings (Source: EP NSW)

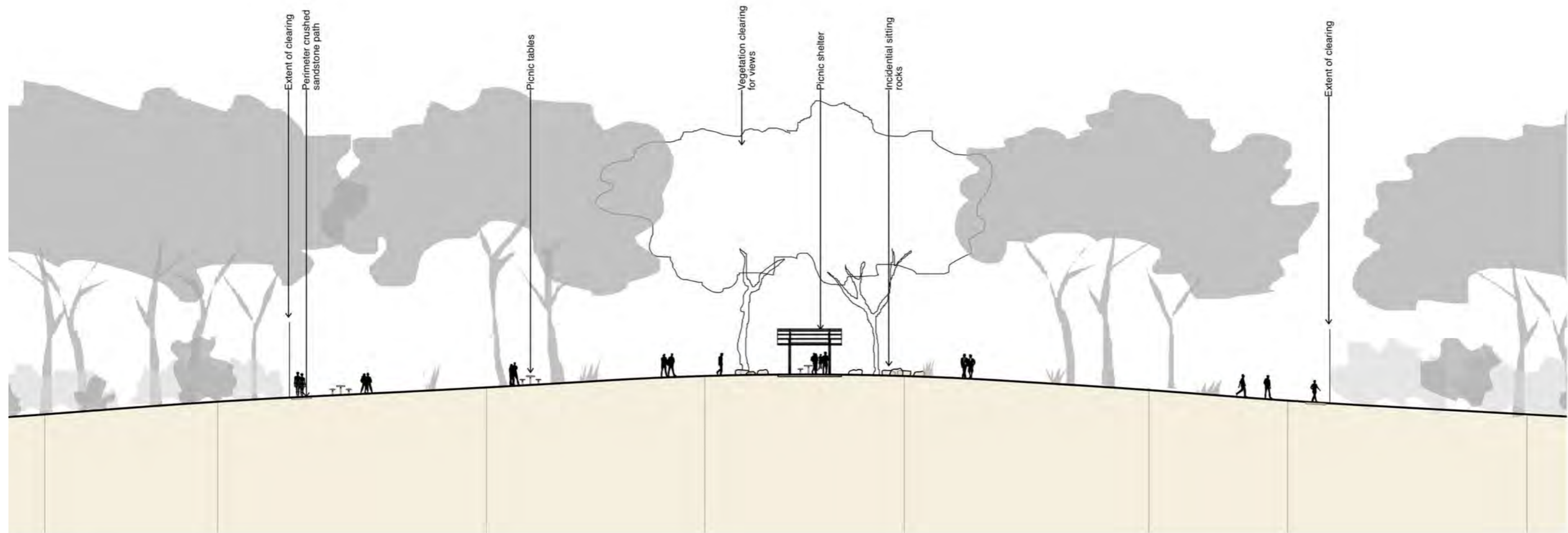
Masterplan Precincts

Park Zone 3 - Recreation Focus: Stage Two Works Western Visitor Precinct

A detailed precinct plan has been prepared for stage two works located to the west of the Park. It is anticipated that this precinct will be undertaken as the second stage of priority works, which will be programmed for construction following development and population numbers increase in the surrounding new suburbs.



Park Zone 3 - Recreation Focus: Stage Two Works Western Visitor Precinct



Section CC
scale 1:300 @ A3

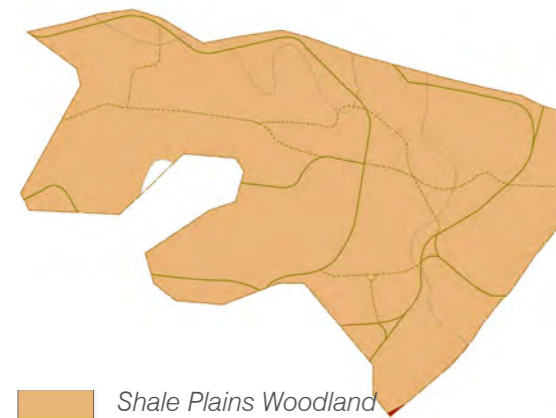
Figure: Western Recreation Precincts Section CC

Masterplan Precincts

Park Zone 3 - Recreation Focus: Stage Two Works Western Visitor Precinct

Flora & Fauna Management

- Regeneration and revegetation of Shale Plains Woodland species which predominately occur throughout this precinct. Some small areas to the south east include Alluvial Woodland species.
- Areas located adjacent entries and visitor facilities are to be planted at denser spacings to ensure maximum visual impact
- Soils, topography and drainage are to be considered surrounding proposed visitor picnic and toilet facilities
- Weed management in accordance with NPWS practises



Vegetation communities - cumberland woodland



Existing Macro Fauna to precinct



Vegetation Regeneration areas

- LEGEND**
- Boundary recreation zone 3
 - Zone 1 : Habitat Focus - restricted access
 - Zone 2 : Secondary Habitat Focus - controlled access
 - Adjoining Development Ropes Crossing
 - Open Space in Ropes Crossing Development
 - Existing Vegetation Habitat
 - Newly Regenerated Areas
 - Newly Revegetated Areas
 - Existing Water Body
 - Existing Significant Trees

Heritage / Interpretation

The main remnant physical fabric to this precinct includes the ADI track network used between 1941 and the 1990's, cleared (pastoral) grasslands and views to adjoining ridge lines and the Blue Mountains.

The area comprises part of the Kingswood Magazine phase of ADI. Remnant hardstand areas are to be retained with in pavement marker / identifier of past uses and adaptively re-used where possible for park facilities.

Markers to identify bunker names / numbers should be used to the small bunkers lining the track network. These bunkers are generally overgrown. A representative sample of the best preserved bunker sites should be kept cleared. These could function as small picnic areas.

Interpretative design locations for precinct heritage items are to be in line with past uses identified in the Conservation Management Plan (CMP) including;

- Colonial Growth and development of the area during Colonial times (1860-1940s). Including Land subdivision, Village settlement, expansion of industry through selective breeding/ viticulture/ tobacco/ cotton, hemp and indigo, as well as timber cutting, tanneries, sawmills, brick making and wheelwrights as initiated by Governor King
- A portion of this precinct falls into what was known as the "Castlereagh Common" (CMP 2010 page 14), an area of land granted by Governor King in 1810 for use by the public for grazing and timber gathering purposes during colonial times. Interpretation through art works, interactive web information and signage should be incorporated into cleared areas located in the hill top park to reflect this past use of the Regional Park site.
- Hilltop views of between ridge tops and cleared grasslands provides interpretation opportunities for past colonial landscapes for pastoral heritage of the precinct including historic themes of convicts, pastoralism, Land tenure, land subdivision and transport routes.
- Remnant storage areas related to Kingswood Magazine Area. A small sample (maybe 3-5) of the best preserved bunker sites kept clear for small picnic areas.
- Remnant stand of pre 1940s trees to be retained and incorporated into open space design.



Reuse of existing ADI tracks and road layout for recreational paths - interpretational signage/artworks to provide further interpretation



Views to development hill top park from Regional Park to be retained along interface of development - open spaces are to interpret rural pastoral heritage of the site



- Recreation : Interpretation Experience
- Recreation : Kick about Open Space
- Recreation : Picnic Areas
- Existing Vegetation Habitat
- Newly Regenerated Areas
- Newly Revegetated Areas

Access, Circulation and Carparking

- Two vehicular entry points are proposed along the western boundary adjoining the proposed residential development area. These are proposed only as vehicular turning, arrival and event parking access points to mitigate potential traffic congestion to residential neighbourhoods. No permanent vehicular access is proposed through the precinct.
- A number of secondary level pedestrian/ cycle entries will be provided along the precinct boundaries to the adjoining development to the south and west. Adjoining the urban development where roads front the recreational precinct it is proposed that a post and cable vehicle barrier is provided but where residences adjoin a 1.8m high security fence is provided.
- Several key pedestrian / cycle (and Maintenance) entry / links will also be provided through the Regional Park to Habitat Zones 1 & 2 to the east and north (linking through to the northern regional links) and access to Cranebrook (proposed NPWS managed site).

A series of existing tracks have been retained and form the walk /cycle track networks around the precinct. These consist of a mixture of surfaces including loose gravel, dirt and grassed. Connections to the Main Visitor Precinct are provided from the north east of the precinct

Site parking will be limited to park edges as no day to day vehicular access will be provided within this precinct.

- Bus parking will be limited to the one way vehicular entry point to the west
- Event parking is provided adjacent the main vehicular entry points in the south, some long term additional parking may be considered necessary to the main hill top park (Hill top park).
- Visitor parking is to be provided as ninety degree or parallel parking within the Regional Park property but adjoining the roadway corridor anticipated to flank this section of the park

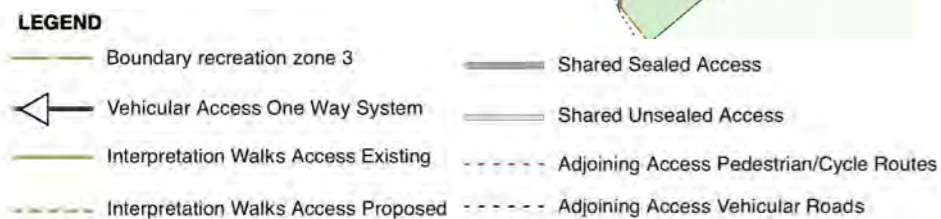
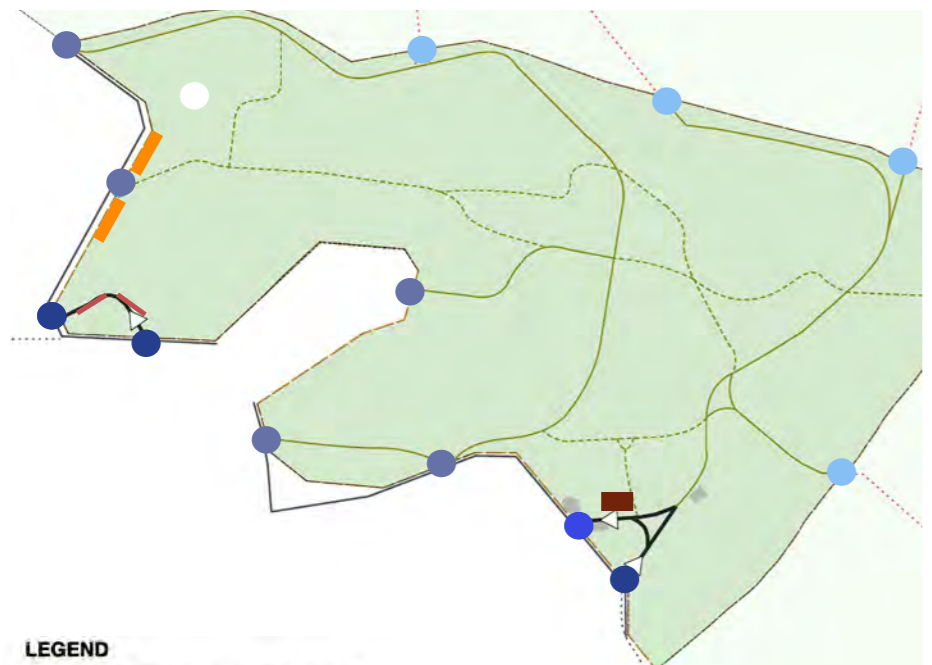


Figure: Traffic Circulation & Parking Precinct Plan

Recreation, Visitor Facilities & Services

Infrastructure

- NPWS information points are to be located at key entries to the precinct as both a way finding tool and educational tool to protect habitat and heritage within the Wianamatta Regional Park area and specifically to the Western Visitor Precinct.
 - A second series of information points are to be located throughout the precinct as both a way finding tool and interpretative walk through interactive story telling and web links which outline habitat values and heritage of the Wianamatta Regional Park area and specifically to the Western Visitor Precinct.
- One Toilet facility is to be located to the hill top open space area close to parking.
- Public toilets to more isolated areas within open spaces are to be considered as part of the overall open space network located within the adjacent the Ropes Crossina precinct outside the Regional Park boundary.

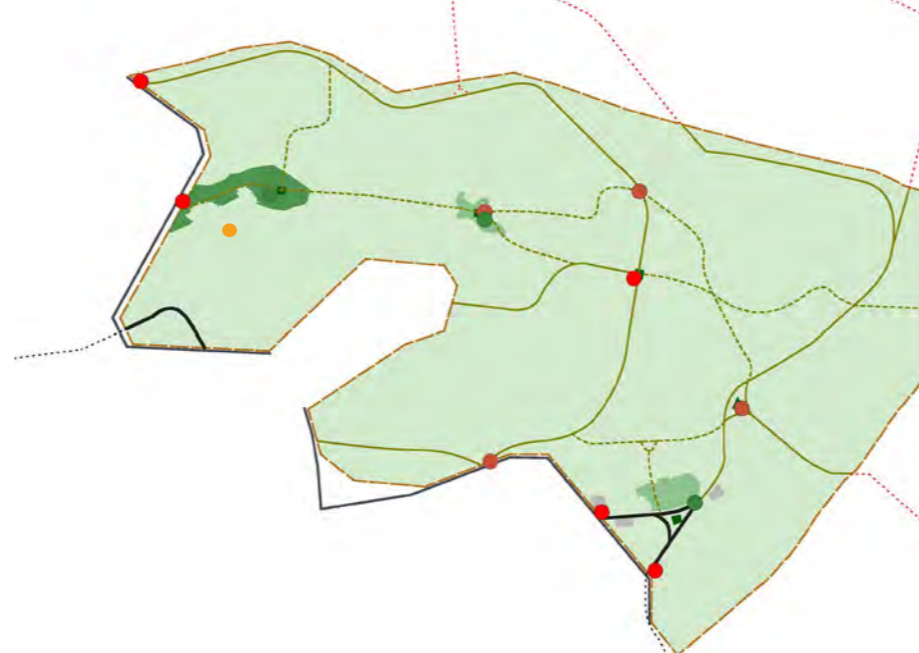


Figure: Visitor facility locations to Western Visitor Precinct Plan



North western entry adjoining Jordan Springs development

Recreation, Visitor Facilities & Services

Infrastructure

- A series of remnant ADI track networks of mostly loose gravel surface and varying topography are the basis for exploration / circulation around the precinct. As vehicular traffic will be kept to minimal locations and event only access times, the precinct provides good opportunity for daily pedestrian/ cycle circulation and family picnic areas.
- Visitor facilities as located are to include picnic benches/ tables and shelters as outlined in the Materials and Finishes section. These are to be spaced throughout the precinct to allow for differing experiences within the precinct along pedestrian and cycle track routes.
- A self guided interpretative walking track route is to circulate through the precinct which includes a sequence of historic pastoral and topographical experiences.
- Smaller cleared maintained grasslands areas are to be maintained for day to day gathering - these are to incorporate picnic facilities and some specific interpretation art works and signage. Additional tree planting for shade should be incorporated into design development for amenity.
- A large cleared grasslands gathering / event area located in the south west of the site is to be maintained as a large open space for large gatherings / community events. Vehicular entry and circulation with overflow carpark area for events is located adjacent.
- A second open space located along the ridge top and fronting onto residential streets has been selected as the main recreational open space park area for family picnicking. Visitor facilities and parking will be included into this area. Interpretive art, signage and cultural plantings will contribute to the understanding of colonial heritage of the precinct.



Figure: Recreation locations within Main Visitor Precinct Plan

Masterplan - Future Stage Precincts

Future Works Precincts - Northern Central Visitor Precinct:

A detailed precinct plan has been prepared for future works located to the centre of the Park. It is anticipated that this precinct will be undertaken as a future stage of works, which will be programmed for construction following development and population numbers increase in the surrounding new suburbs.

LEGEND

- Boundary recreation zone 3
- Zone 1 : Habitat Focus - restricted access
- Zone 2 : Secondary Habitat Focus - controlled access
- Adjoining Development Ropes Crossing
- Open Space in Ropes Crossing Development
- Existing Vegetation Habitat
- Newly Regenerated Areas
- Newly Revegetated Areas
- Existing Water Body
- Existing Significant Trees
- Fence : 2.1m Fauna Proof
- Fence : Post and Cable
- Fence : 1.8m Height
- Existing Tracks Proposed as Interpretation Walks
- Interpretation Walks Access Proposed
- Adjoining Access Routes
- Pedestrian / Cycle Entry Access
- Vehicular Entry Access (Maintenance only)
- Hill Top Park
- Parking - Event Carpark
- Parking - Daily
- Recreation : Interpretation Experience
- Recreation : Kick about Open Space
- Recreation : Picnic Areas

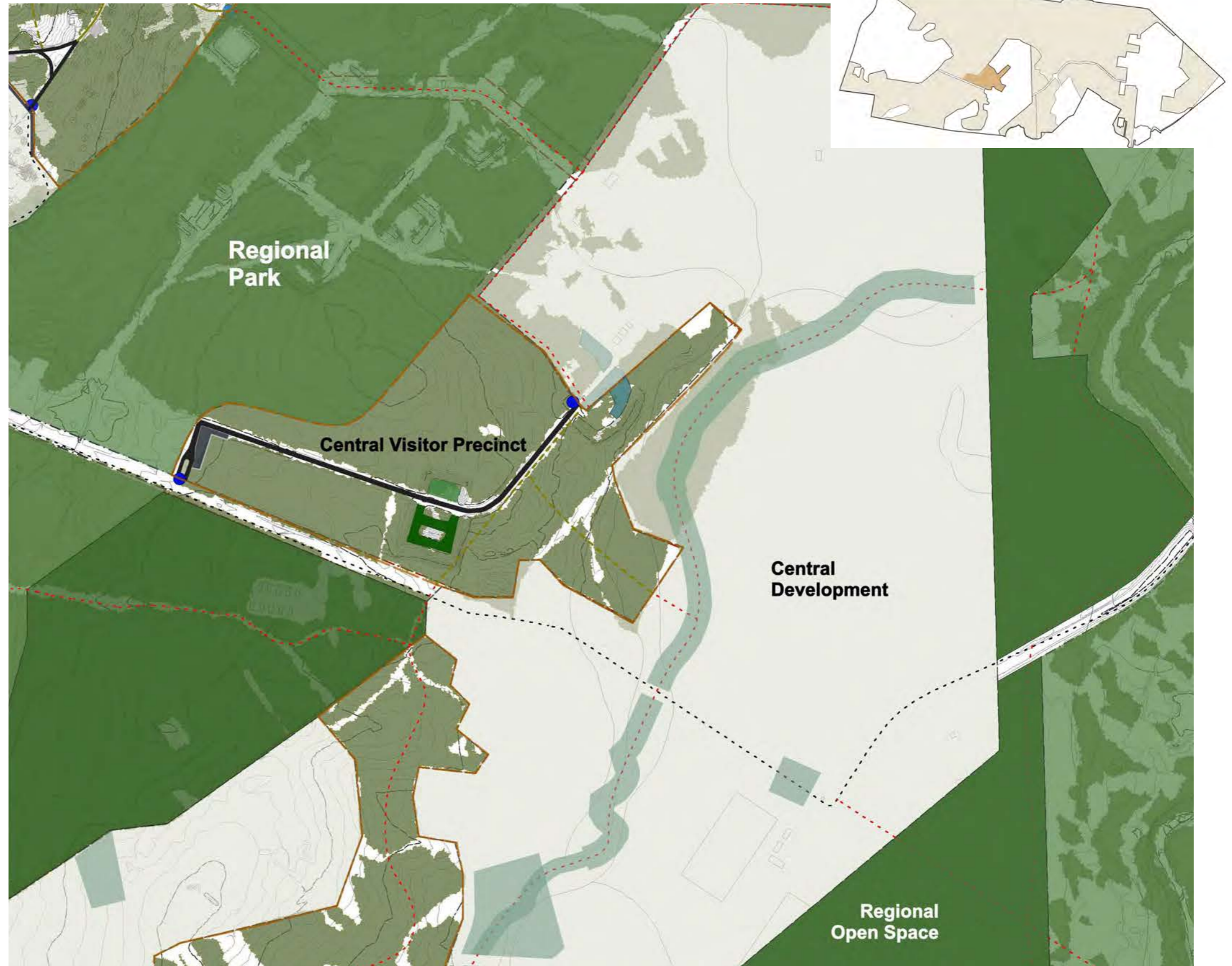
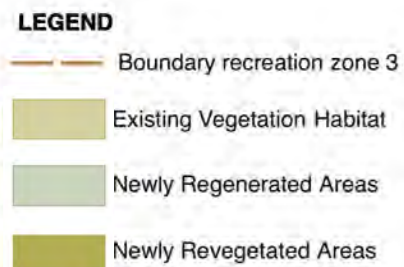
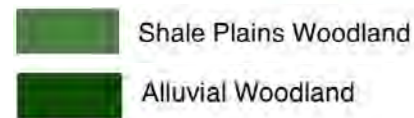
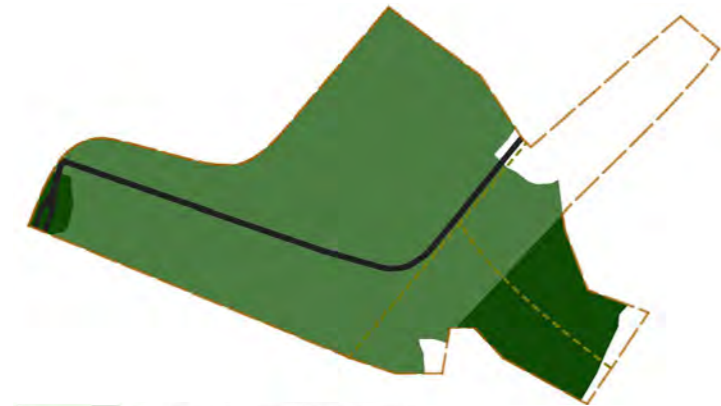


Figure: Central Recreation Precinct Masterplan

Flora & Fauna Management

Regeneration and revegetation of Alluvial Woodland and Shale Plains Woodland species to occur throughout the precinct.

- A native nursery to be located adjoining development lands along the north eastern precinct boundary to be considered during precinct design development.



Heritage / Interpretation

The main remnant physical fabric to this precinct is the ADI road / track network used between 1941 and 1990s and earth mounding from the 1950s munitions and storage phase. These form the basis for exploration / circulation around the precinct and recreational use. The interpretative design for precinct heritage items is to be in line with recommendations outlined in the Conservation Management Plan (CMP) including;

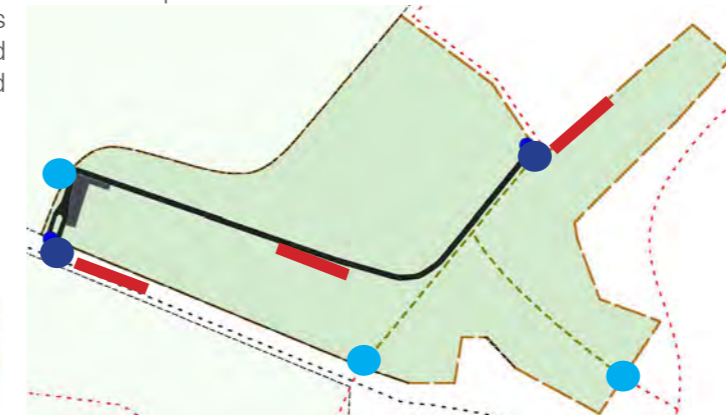
- ADI munitions and storage phase including remnant ADI circulation networks & remnant earth mounds in the Bomb Filling areas
- Provide markers and space naming to reflect past ADI functional naming
- Remnant ADI clean areas located at the precinct entry
- Rare and endangered species/ vegetation communities including, Alluvial Woodland & Shale Plains Woodland interpretation to be considered as part of nursery located to northern eastern precinct boundary.
- Heritage totem (multiple themes)



Access, Circulation and Carparking

A series of existing ADI tracks have been retained to provide the basis for walk /cycle track networks.

- Two key entry points one from the Central Development Precinct and another to the East-West Link Road book mark the sealed roadway spine which runs centrally through the Precinct.
- A series of secondary lower level entries will be provided along the precinct boundaries to the adjoining development for general pedestrian/ cycle track entry. The Regional Park's western precinct will be access directly via a fenced access track which will run east west through zone 1 and 2 of the Regional Park.
- Parking will be limited to a central area and at park edges in this precinct.



Recreation, Visitor Facilities & Services Infrastructure

- Visitor facilities nodes as located are to include picnic benches/tables and shelters as outlined in the Materials and Finishes section.
- Public toilets to be considered as part of the nursery located to the adjacent the Central Development Precinct entry gate outside the Regional Park boundary.
- Cleared grasslands event area is to be maintained as a large gathering open space for markets / outdoor cinema etc.

Interpretative walk / bike riding



Masterplan - Future Stage Precincts

Zone 3 - Recreation Focus Future Works Precincts - Southern Central Visitor Precinct:

A detailed precinct plan has been prepared for future works located to the centre of the Park. It is anticipated that this precinct will be undertaken as a future stage of works, which will be programmed for construction following development and population numbers increase in the surrounding new suburbs.

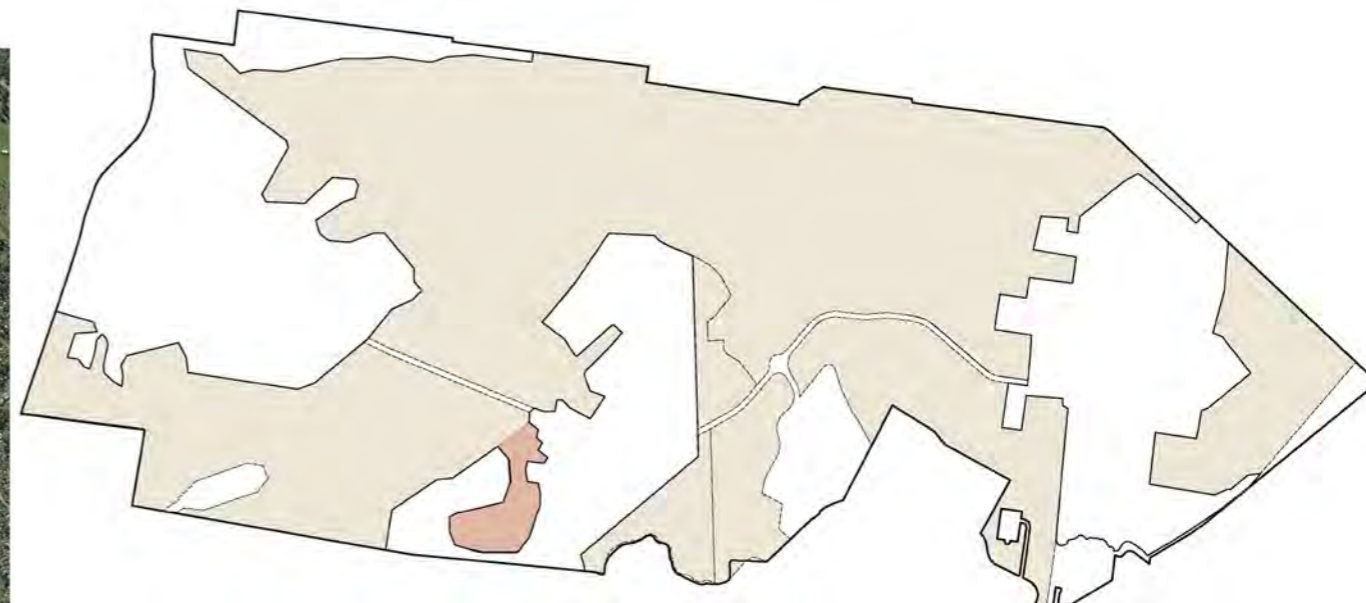


Figure: Park Zone 3 - Southern Central Visitor Precinct

Flora & Fauna Management

Regeneration of Shale Plains Woodland species which predominately occur throughout this precinct.

Some historic plantings maybe used to interpret colonial heritage of the precinct and adjoining Elizabeth King farmlands to the east.

Maintain grassland character through management of understorey - as part of cultural heritage reference to Elizabeth King farm holdings to facilitate recreational use.

Heritage / Interpretation

The design for heritage is to be designed in line with recommendations outlined in the Conservation Management Plan (CMP) including;

- The Colonial Landscape 1800-1850, interpret connections to the Elizabeth King farmlands.
- Brick making - relics and footprint
- Interpretative play
- Cultural plantings eg non fruiting heirloom varieties

Access, Circulation and Carparking

Walk /cycle track recreational networks are to be based on existing roads and tracks where possible.

Several secondary level entries will be provided along the precinct boundaries to the adjoining development for pedestrian/ cycle entry into the precinct

Several key entry / links are to be provided through the precinct to the Northern Central Visitor Precinct, and northern regional links.

No public vehicle access will be provided into this precinct.

Parking will be limited to park edges as no day to day vehicular access will be provided within this precinct.

Recreation, Visitor Facilities & Services Infrastructure

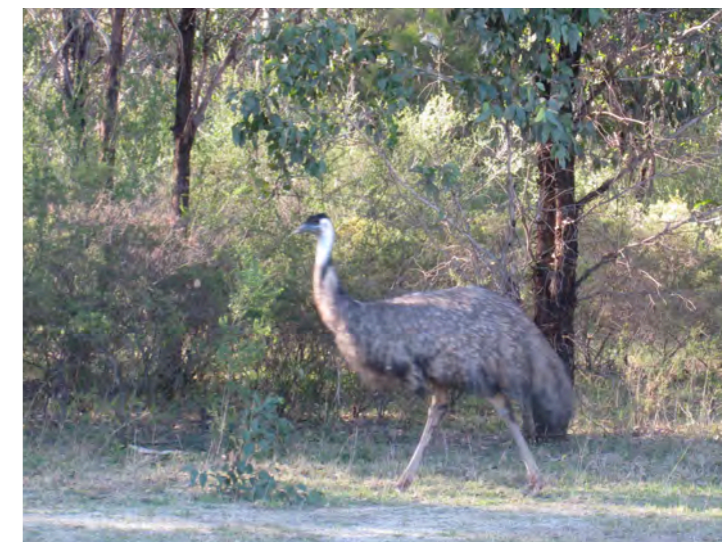
Recreational development is proposed to be low key for predominately local residential use and access stopover / rest

Visitor facilities are to include picnic benches/ tables and shelters as outlined in the Materials and Finishes section.

Public toilets are not proposed in this precinct.

Cleared grasslands areas through the precinct are to be maintained as informal gathering open spaces for family gathering and picnics.

Post and cable barrier with openings for cycle / pedestrian access proposed adjoining urban development of Central Precinct



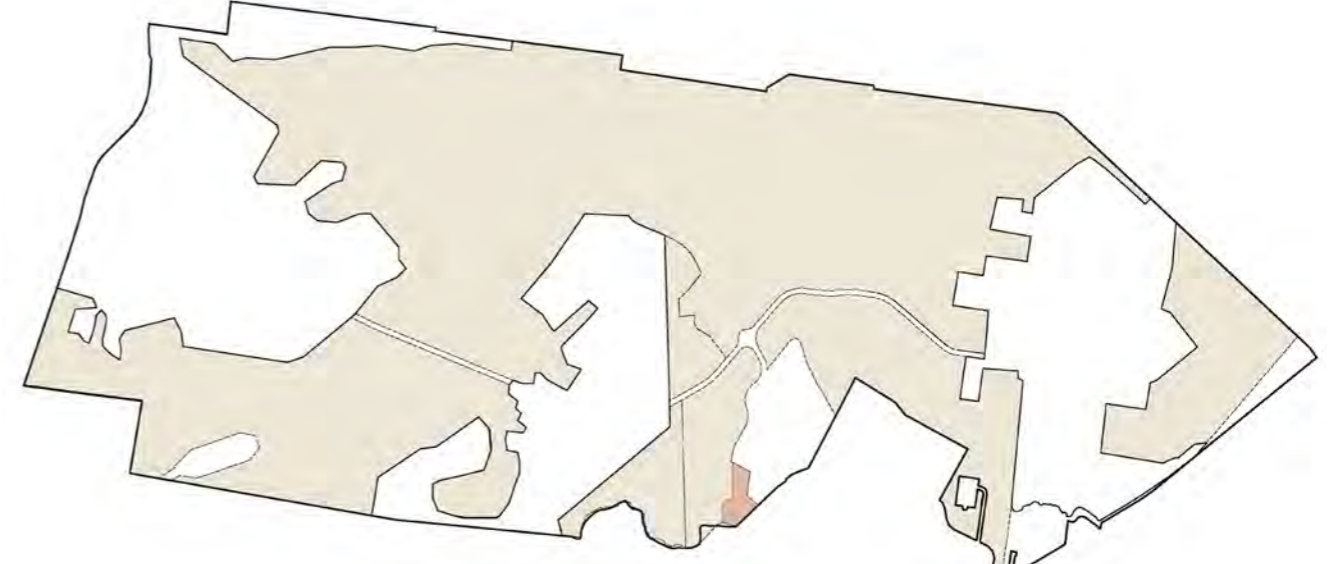
Site images (EP NSW)

Masterplan - Future Stage Precincts

Zone 3 - Recreation Focus Future Works Precincts - Dunheved Precinct:



Figure: Park Zone 3 - Dunheved Precinct



Flora & Fauna Management

Alluvial Woodland weed management and regeneration to riparian corridor

Retain heritage cleared character of floodplain zone of site, predominantly cleared with scattered native trees and significant native plantings

Possible additional plantings to reflect past cultural avenues to access roads etc

Some historic orchard/ vegetable species maybe used to interpret colonial heritage of the precinct.



Site image: grasslands and understory (EP NSW)

Heritage / Interpretation

The design for heritage is to be developed in line with recommendations outlined in the Conservation Management Plan (CMP) including;

- The Colonial Landscape 1800-1850, interpret Crops, kitchen gardens and fruit trees found on the King family homesteads.
- Possible markers to past building footprints / roadways
- Visual link to Elizabeth farm heritage stands of tree plantings
- Western Arm of the ADI Rail route from explosives and filling 1941- 1946
- Interpret / use remnant rail tracks to Links Road in entry statement to precinct.



Site image: remnant rail tracks to Links Avenue (EP NSW)

Access, Circulation and Carparking

Further investigation of past planning / layout of homestead can inform layout of new recreational cycle and pedestrian access, with additional access as necessary

Main pedestrian / cycle entry at corner on Links Road near rail crossing - can act as key entry to Regional Park and Regional Open Space

A key link is to be provided to the west through the Regional Open Space to the Central Development Precinct and beyond to the Central Visitor Precinct. This will require an access bridge in the area of the past rail bridges and earlier farm bridges.

In addition a recreational loop through interpretative locations (possible boardwalk) is recommended.

Parking will be provided as formalised bays within site adjoining Links Road.

No day to day vehicular access beyond this parking.



Site image: cultural plantings (EP NSW)

Recreation, Visitor Facilities & Services Infrastructure

Visitor facilities as located are to include picnic benches/ tables and shelters as outlined in the Materials and Finishes section.

Public toilets to be considered as part of the entry located to the adjacent to the corner of Links Road.

Cleared grasslands areas over much of the precinct are to be maintained as informal gathering open spaces for family gathering and picnics.

Historic guided tours as well as signage/ interactive web self guided tours to Governor King Homestead site.



Site image: cleared grasslands (EP NSW)